

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

APPLICATION FOR PERMIT TO DRILL						1. WELL NAME and NUMBER NBU 1022-11D1CS			
2. TYPE OF WORK DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>						3. FIELD OR WILDCAT NATURAL BUTTES			
4. TYPE OF WELL Gas Well Coalbed Methane Well: NO						5. UNIT or COMMUNITIZATION AGREEMENT NAME NATURAL BUTTES			
6. NAME OF OPERATOR KERR-MCGEE OIL & GAS ONSHORE, L.P.						7. OPERATOR PHONE 720 929-6515			
8. ADDRESS OF OPERATOR P.O. Box 173779, Denver, CO, 80217						9. OPERATOR E-MAIL julie.jacobson@anadarko.com			
10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE) UO1197A-ST			11. MINERAL OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			12. SURFACE OWNERSHIP FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>			
13. NAME OF SURFACE OWNER (if box 12 = 'fee')						14. SURFACE OWNER PHONE (if box 12 = 'fee')			
15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')						16. SURFACE OWNER E-MAIL (if box 12 = 'fee')			
17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')			18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS YES <input checked="" type="checkbox"/> (Submit Commingling Application) NO <input type="checkbox"/>			19. SLANT VERTICAL <input type="checkbox"/> DIRECTIONAL <input checked="" type="checkbox"/> HORIZONTAL <input type="checkbox"/>			

20. LOCATION OF WELL	FOOTAGES	QTR-QTR	SECTION	TOWNSHIP	RANGE	MERIDIAN
LOCATION AT SURFACE	1868 FNL 1493 FWL	SE NW	11	10.0 S	22.0 E	S
Top of Uppermost Producing Zone	576 FNL 818 FWL	NW NW	11	10.0 S	22.0 E	S
At Total Depth	576 FNL 818 FWL	NW NW	11	10.0 S	22.0 E	S

21. COUNTY UINTAH		22. DISTANCE TO NEAREST LEASE LINE (Feet) 576		23. NUMBER OF ACRES IN DRILLING UNIT 1674	
		25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed) 1456		26. PROPOSED DEPTH MD: 8806 TVD: 8569	
27. ELEVATION - GROUND LEVEL 5082		28. BOND NUMBER 22013542		29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE 43-8496	

Hole, Casing, and Cement Information										
String	Hole Size	Casing Size	Length	Weight	Grade & Thread	Max Mud Wt.	Cement	Sacks	Yield	Weight
Surf	11	8.625	0 - 2150	28.0	J-55 LT&C	0.2	Type V	180	1.15	15.8
							Class G	270	1.15	15.8
Prod	7.875	4.5	0 - 8806	11.6	I-80 LT&C	12.5	Premium Lite High Strength	270	3.38	11.0
							50/50 Poz	1220	1.31	14.3

ATTACHMENTS

VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES

<input checked="" type="checkbox"/> WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER	<input checked="" type="checkbox"/> COMPLETE DRILLING PLAN
<input type="checkbox"/> AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)	<input type="checkbox"/> FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER
<input checked="" type="checkbox"/> DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)	<input checked="" type="checkbox"/> TOPOGRAPHICAL MAP

NAME Andy Lytle	TITLE Regulatory Analyst	PHONE 720 929-6100
SIGNATURE	DATE 08/10/2011	EMAIL andrew.lytle@anadarko.com
API NUMBER ASSIGNED 43047518000000	APPROVAL Permit Manager	

RECEIVED: October 25, 2011

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 1022-11D1CS**

Surface: 1868 FNL / 1493 FWL SENW
BHL: 576 FNL / 818 FWL NWNW

Section 11 T10S R22E

Uintah County, Utah
Mineral Lease: UO1197A-ST

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1003	
Birds Nest	1323	Water
Mahogany	1696	Water
Wasatch	4132	Gas
Mesaverde	6406	Gas
MVU2	7398	Gas
MVL1	7972	Gas
TVD	8569	Gas
TD	8806	Gas

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8569' TVD, approximately equals
5,484 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,587 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press.(MASP) = (Pore Pressure at next csg point-
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.

Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- *Blowout Prevention Equipment (BOPE) requirements;*
- *Mud program requirements; and*
- *Special drilling operation (surface equipment placement) requirements associated with air drilling.*

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

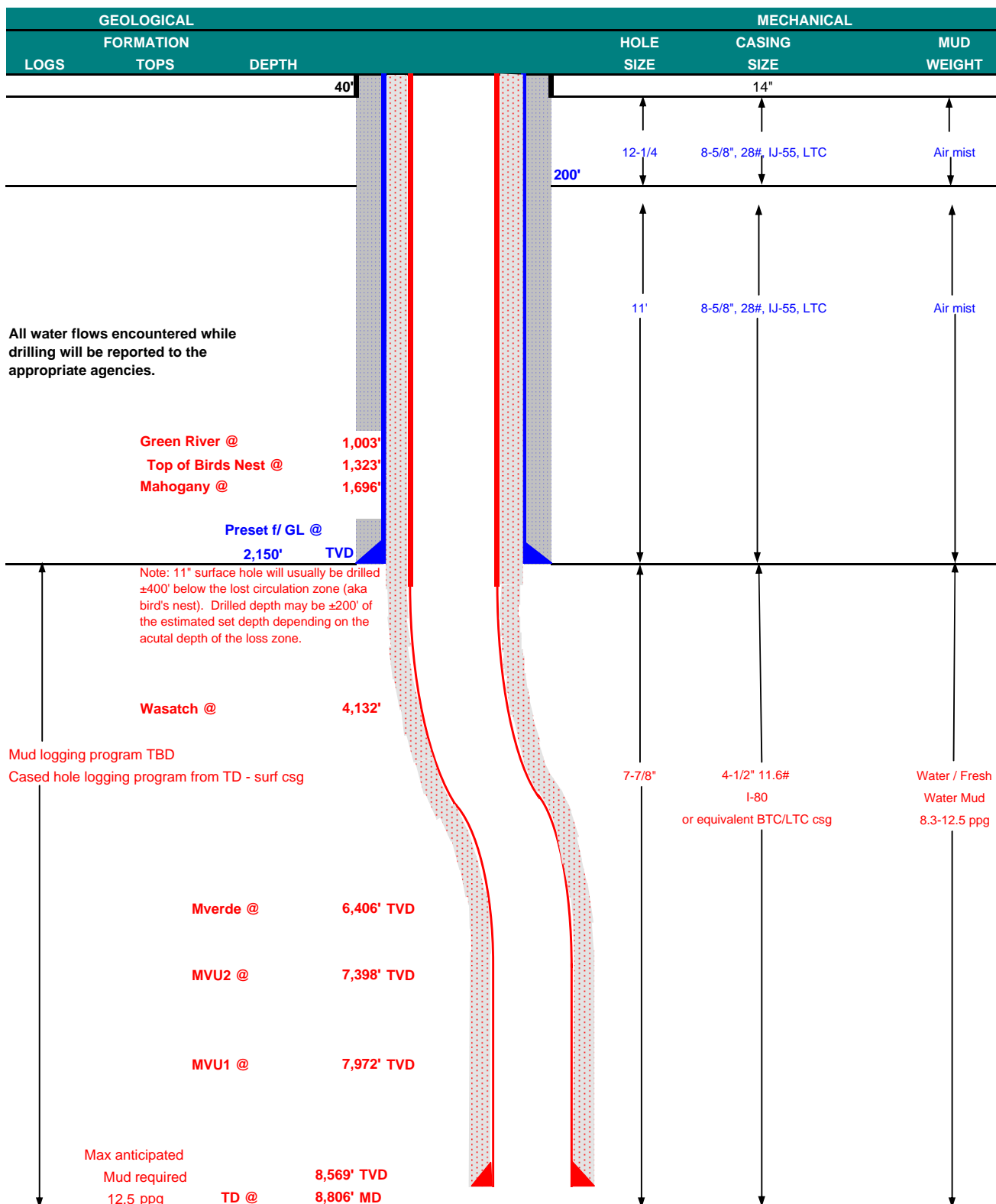
10. **Other Information:**

Please refer to the attached Drilling Program.



KERR-McGEE OIL & GAS ONSHORE LP DRILLING PROGRAM

COMPANY NAME	KERR-McGEE OIL & GAS ONSHORE LP					DATE	August 10, 2011		
WELL NAME	NBU 1022-11D1CS					TD	8,569'	TVD	8,806' MD
FIELD	Natural Buttes		COUNTY	Uintah	STATE	Utah	FINISHED ELEVATION		5079'
SURFACE LOCATION	SENW	1868 FNL	1493 FWL	Sec 11	T 10S	R 22E			
	Latitude: 39.965612		Longitude: -109.410638		NAD 27				
BTM HOLE LOCATION	NWNW	576 FNL	818 FWL	Sec 11	T 10S	R 22E			
	Latitude: 39.969162		Longitude: -109.413055		NAD 27				
OBJECTIVE ZONE(S)	Wasatch/Mesaverde								
ADDITIONAL INFO	Regulatory Agencies: UDOGM (Minerals), UDOGM (Surface), UDOGM Tri-County Health Dept.								





KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

	SIZE	INTERVAL	WT.	GR.	CPLG.	DESIGN FACTORS			
						LTC		BTC	
						BURST	COLLAPSE	TENSION	
CONDUCTOR	14"	0-40'							
						3,390	1,880	348,000	N/A
SURFACE	8-5/8"	0 to 2,150	28.00	IJ-55	LTC	2.52	1.87	6.60	N/A
						7,780	6,350	279,000	367,000
PRODUCTION	4-1/2"	0 to 8,806	11.60	I-80	LTC/BTC	1.11	1.14	3.38	4.44

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW)

(Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoy.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT	YIELD
SURFACE	LEAD	500'	Premium cmt + 2% CaCl	180	60%	15.80	1.15
Option 1			+ 0.25 pps flocele				
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt	270	0%	15.80	1.15
			+ 2% CaCl + 0.25 pps flocele				
SURFACE		NOTE: If well will circulate water to surface, option 2 will be utilized					
Option 2	LEAD	1,650'	65/35 Poz + 6% Gel + 10 pps gilsonite	150	35%	11.00	3.82
			+ 0.25 pps Flocele + 3% salt BWOW				
	TAIL	500'	Premium cmt + 2% CaCl	150	35%	15.80	1.15
			+ 0.25 pps flocele				
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80	1.15
PRODUCTION	LEAD	3,626'	Premium Lite II +0.25 pps	270	20%	11.00	3.38
			celloflake + 5 pps gilsonite + 10% gel				
			+ 0.5% extender				
	TAIL	5,180'	50/50 Poz/G + 10% salt + 2% gel	1,220	35%	14.30	1.31
			+ 0.1% R-3				

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. No centralizers will be used.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

DRILLING ENGINEER:

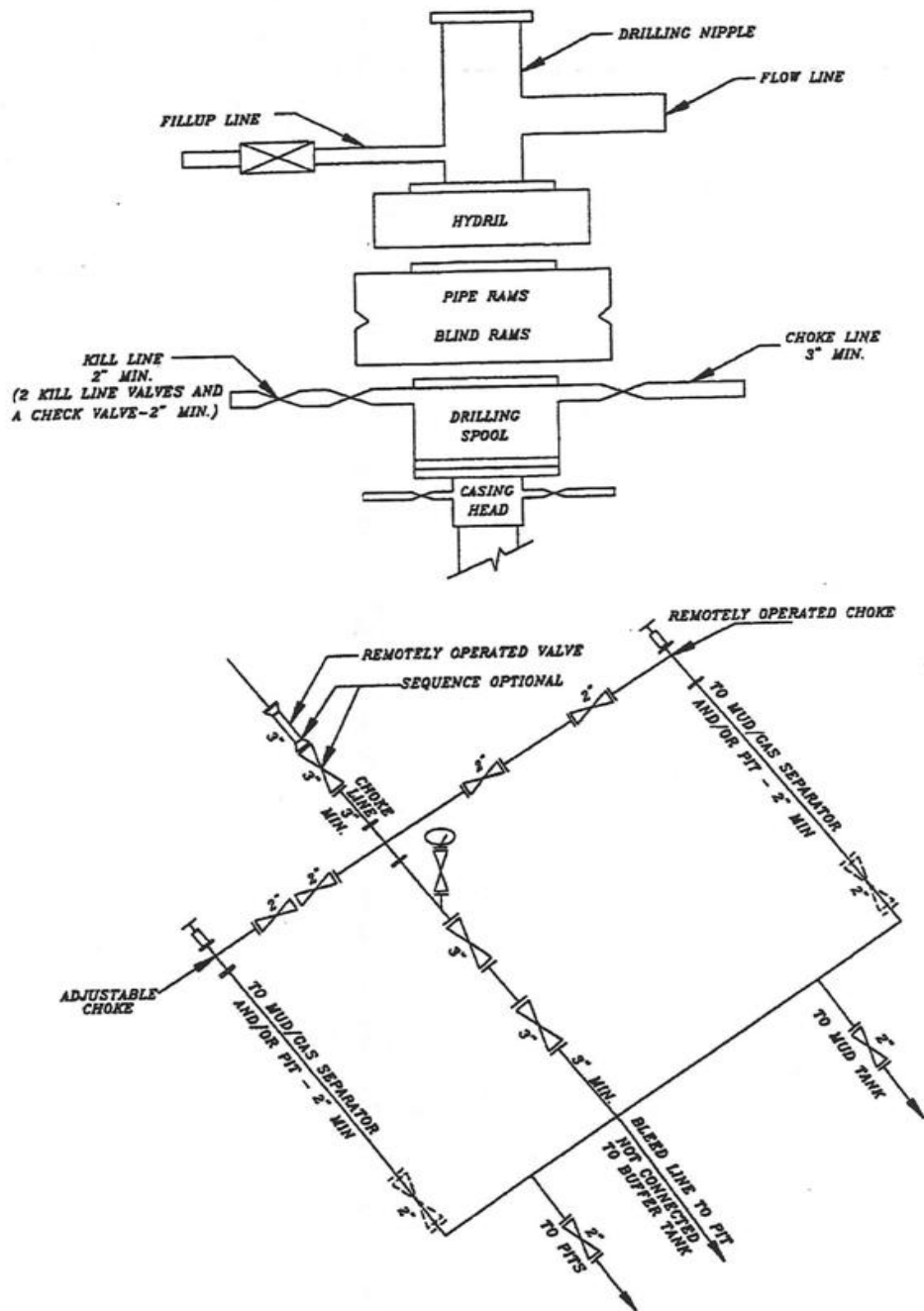
Nick Spence / Danny Showers

DATE:**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:

EXHIBIT A
NBU 1022-11D1CS



SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK

T10S, R22E, S.L.B.&M.Found 1991
Aluminum Cap,
Steel Post &
Pile of Stones.N89°55'57"W - 3073.93'
(Measured to Witness Corner)

S89°59'W - 80.04 (G.L.O.)

S89°58'17"W - 2247.80'
(Measured to Witness Corner)Found 1991
Aluminum Cap
with Pile of
Stones. Fence
Post on SE side
of Cap.N00°06'51"W
(Basis of Bearings)N00°09'14"W
(G.L.O.)

N0°06'W - 80.02 (G.L.O.)

N00°06'14"W - 2640.39' (Meas.)

Found 1991
Aluminum Cap
on 3/4" Rebar,
Pile of Stones.

N89°59'34"W - 2633.26' (Meas.)

N89°59'W - 79.98 (G.L.O.)

S89°56'39"W - 2638.49' (Meas.)

N0°25'25"E - 5276.36' (Meas.)
N0°01'W (G.L.O.)Found Uintah County
Aluminum Cap on 3/4"
rebar. Pile of Stones

25.23'

(G.L.O.)

576'

818'

20.005' (G.L.O.)

1320.03' (Measured)

Found 1991
Aluminum Cap.Bottom
of Hole

1868'

1493'

20.005' (G.L.O.)

1320.53' (Meas.)

Well Surface
Position

ELEV. UNGRADED GROUND = 5082.2'

11

Not
Monumented

NBU 1022-11D1CS (Surface Position)

NAD 83 LATITUDE = 39.965577° (39° 57' 56.079")

LONGITUDE = 109.411320° (109° 24' 40.751")

NAD 27 LATITUDE = 39.965612° (39° 57' 56.202")

LONGITUDE = 109.410638° (109° 24' 38.297")

NBU 1022-11D1CS (Bottom Hole)

NAD 83 LATITUDE = 39.969128° (39° 58' 08.861")

LONGITUDE = 109.413737° (109° 24' 49.453")

NAD 27 LATITUDE = 39.969162° (39° 58' 08.985")

LONGITUDE = 109.413055° (109° 24' 46.999")

Found 1991 Aluminum
Cap, Set Stone West
of Cap, Pile of Stones**NOTES:**

▲ = Section Corners Located

- Well footages are measured at right angles to the Section Lines.
- G.L.O. distances are shown in feet or chains.
1 chain = 66 feet.
- The Bottom of hole bears N27°40'48"W 1460.52' from the Surface Position.
- Bearings are based on Global Positioning Satellite observations.
- Basis of elevation is Tri-Sta "Two Water" located in the NW ¼ of Section 1, T10S, R21E, S.L.B.&M. The elevation of this Tri-Sta is shown on the Big Pack Mtn NE 7.5 Min. Quadrangle as being 5238'.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD: NBU 1022-11F

**NBU 1022-11D1CS
WELL PLAT**

576' FNL, 818' FWL (Bottom Hole)
**NW ¼ NW ¼ OF SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH.**

CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

**SURVEYOR'S CERTIFICATE**

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

PROFESSIONAL LAND SURVEYOR
REGISTRATION NO. 6028691
STATE OF UTAH
2-3-11

TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

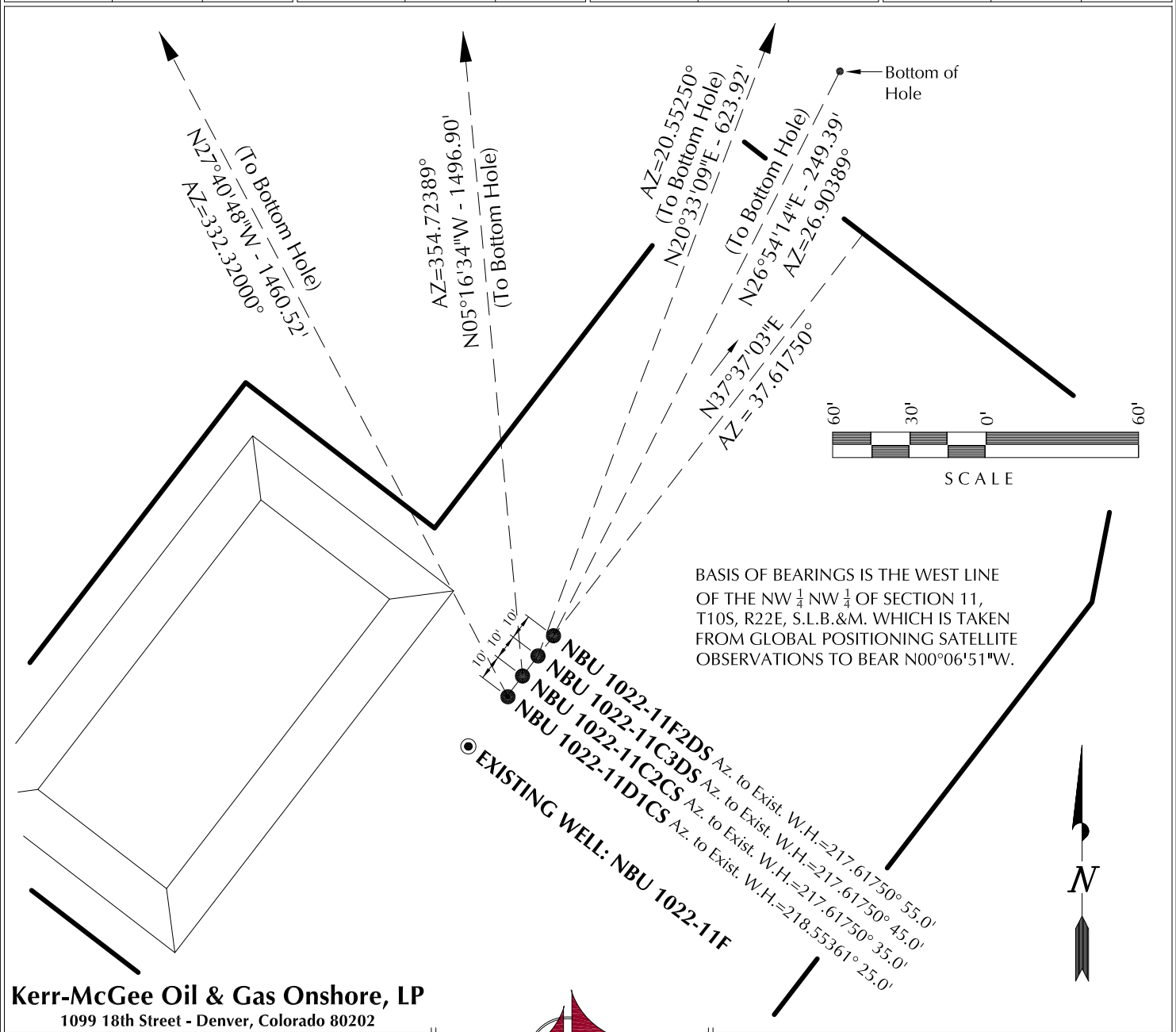
DATE SURVEYED: 01-03-11	SURVEYED BY: R.Y.	SHEET NO:
DATE DRAWN: 01-12-11	DRAWN BY: E.M.S.	1
SCALE: 1" = 1000'	Date Last Revised:	1 OF 16

RECEIVED: August 10, 2011

WELL NAME	SURFACE POSITION					BOTTOM HOLE				
	NAD83		NAD27		FOOTAGES	NAD83		NAD27		FOOTAGES
	LATITUDE	LONGITUDE	LATITUDE	LONGITUDE		LATITUDE	LONGITUDE	LATITUDE	LONGITUDE	
NBU 1022-11D1CS	39°57'56.079"	109°24'40.751"	39°57'56.202"	109°24'38.297"	1868' FNL	39°58'08.861"	109°24'49.453"	39°58'08.985"	109°24'46.999"	576' FNL
NBU 1022-11C2CS	39°57'56.159"	109°24'40.676"	39°57'56.283"	109°24'38.223"	1493' FWL	39°58'10.887"	109°24'42.433"	39°58'11.010"	109°24'39.979"	818' FWL
NBU 1022-11C3DS	39°57'56.238"	109°24'40.598"	39°57'56.361"	109°24'38.144"	1860' FNL	39°58'10.887"	109°24'42.433"	39°58'11.010"	109°24'39.979"	370' FNL
NBU 1022-11F2DS	39°57'56.316"	109°24'40.520"	39°57'56.439"	109°24'38.066"	1499' FWL	39°58'10.887"	109°24'42.433"	39°58'11.010"	109°24'39.979"	1365' FWL
NBU 1022-11F	39°57'55.886"	109°24'40.951"	39°57'56.009"	109°24'38.497"	1852' FNL	39°58'02.008"	109°24'37.781"	39°58'02.132"	109°24'35.328"	1268' FNL
NBU 1022-11F2DS	39°57'56.439"	109°24'40.520"	39°57'56.439"	109°24'38.066"	1505' FWL	39°58'10.887"	109°24'42.433"	39°58'11.010"	109°24'39.979"	1726' FWL
NBU 1022-11F	39°57'55.886"	109°24'40.951"	39°57'56.009"	109°24'38.497"	1844' FNL	39°57'58.513"	109°24'39.069"	39°57'58.636"	109°24'36.615"	1622' FNL
NBU 1022-11F	39°57'55.886"	109°24'40.951"	39°57'56.009"	109°24'38.497"	1888' FNL	39°57'58.513"	109°24'39.069"	39°57'58.636"	109°24'36.615"	1625' FWL
NBU 1022-11F	39°57'55.886"	109°24'40.951"	39°57'56.009"	109°24'38.497"	1478' FWL	39°57'58.513"	109°24'39.069"	39°57'58.636"	109°24'36.615"	

RELATIVE COORDINATES - From Surface Position to Bottom Hole

WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST	WELL NAME	NORTH	EAST
NBU 1022-11D1CS	1,293.4'	-678.5'	NBU 1022-11C2CS	1,490.6'	-137.6'	NBU 1022-11C3DS	584.2'	219.0'	NBU 1022-11F2DS	222.4'	112.8'



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-11F

WELL PAD INTERFERENCE PLAT
WELLS - NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH.



CONSULTING, LLC
2155 North Main Street
Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE

(435) 789-1365

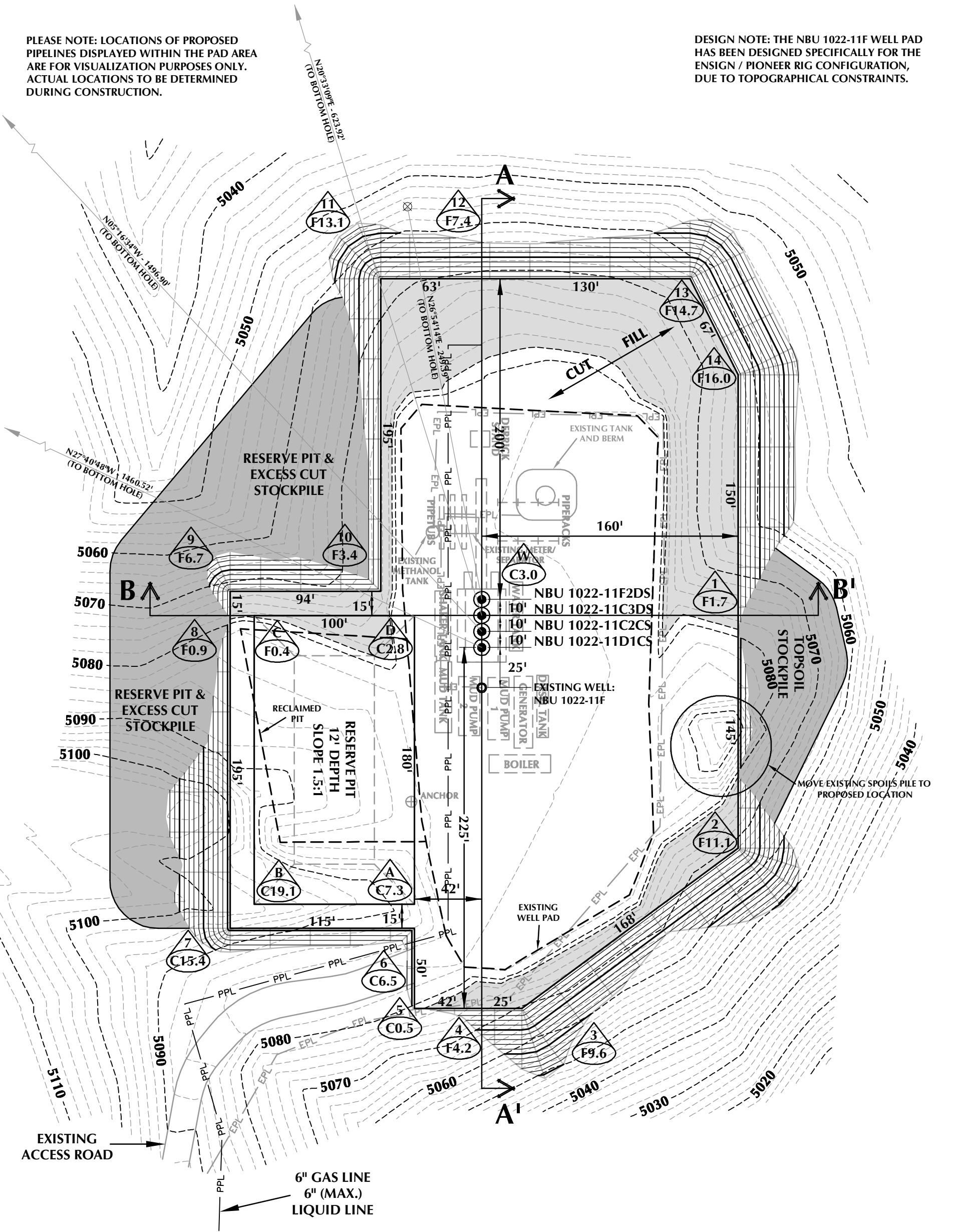
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE SURVEYED: 01-03-11	SURVEYED BY: R.Y.	SHEET NO: 5 5 OF 16
DATE DRAWN: 01-12-11	DRAWN BY: E.M.S.	
SCALE: 1" = 60'	Date Last Revised:	

RECEIVED: August 10, 2011

PLEASE NOTE: LOCATIONS OF PROPOSED PIPELINES DISPLAYED WITHIN THE PAD AREA ARE FOR VISUALIZATION PURPOSES ONLY. ACTUAL LOCATIONS TO BE DETERMINED DURING CONSTRUCTION.

DESIGN NOTE: THE NBU 1022-11F WELL PAD HAS BEEN DESIGNED SPECIFICALLY FOR THE ENSIGN / PIONEER RIG CONFIGURATION, DUE TO TOPOGRAPHICAL CONSTRAINTS.



WELL PAD - NBU 1022-11F DESIGN SUMMARY

EXISTING GRADE @ CENTER OF WELL PAD = 5082.0'
FINISHED GRADE ELEVATION = 5079.0'
CUT SLOPES = 1.5:1
FILL SLOPES = 1.5:1
TOTAL WELL PAD AREA = 3.34 ACRES
TOTAL DAMAGE AREA = 5.77 ACRES
SHRINKAGE FACTOR = 1.10
SWELL FACTOR = 1.00

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-11F

WELL PAD - LOCATION LAYOUT
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH



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Fax 307-674-0182

WELL PAD QUANTITIES

TOTAL CUT FOR WELL PAD = 14,549 C.Y.
TOTAL FILL FOR WELL PAD = 11,855 C.Y.
TOPSOIL @ 6" DEPTH = 1,794 C.Y.
EXCESS MATERIAL = 2,694 C.Y.

RESERVE PIT QUANTITIES

TOTAL CUT FOR RESERVE PIT
+/- 5,950 C.Y.
RESERVE PIT CAPACITY (2' OF FREEBOARD)
+/- 22,520 BARRELS

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PROPOSED BOTTOM HOLE LOCATION
- EXISTING CONTOURS (2' INTERVAL)
- PROPOSED CONTOURS (2' INTERVAL)
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE

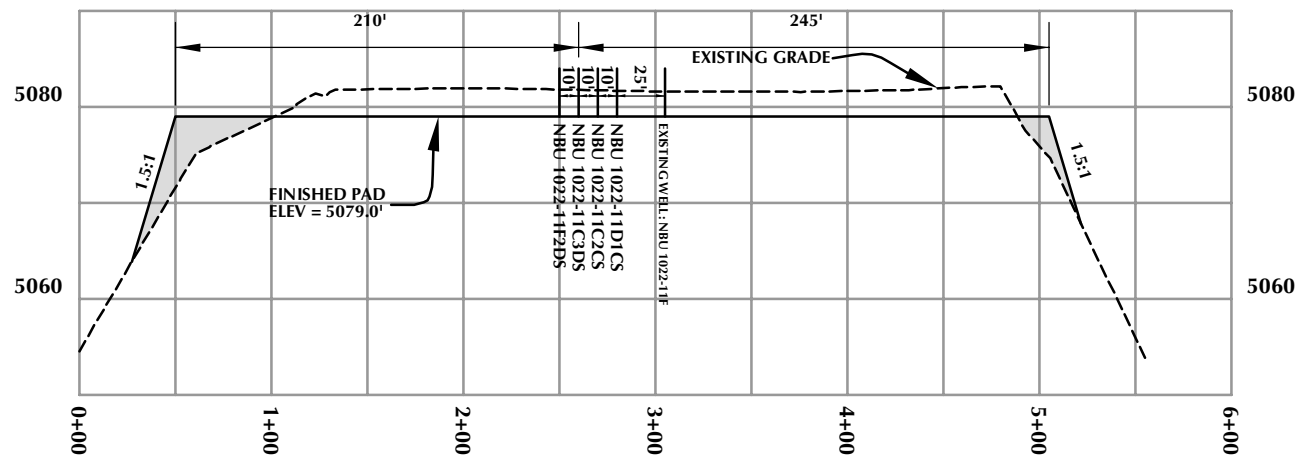


HORIZONTAL 0 30' 60' 1" = 60'
2' CONTOURS

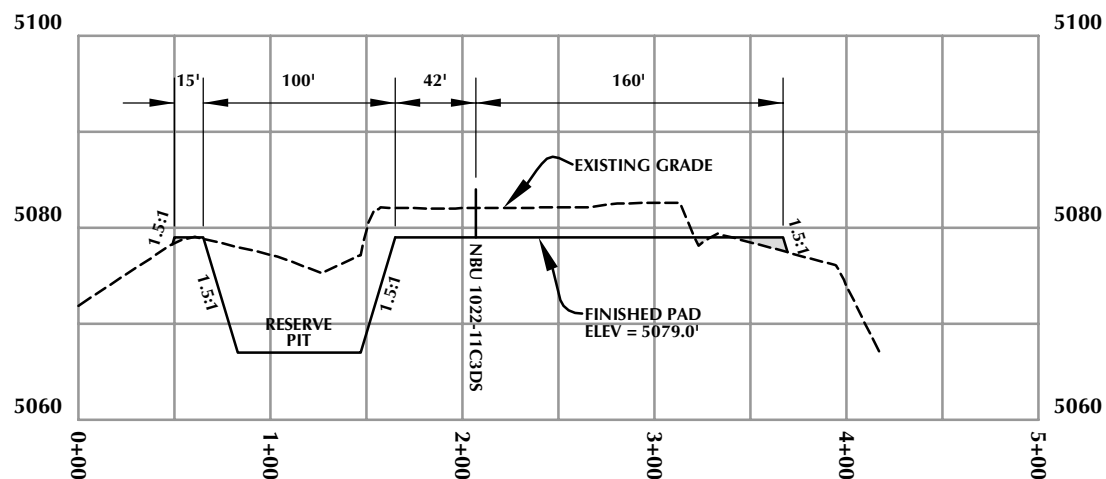
SCALE: 1"=60' DATE: 3/2/11 SHEET NO:
REVISED: 6 6 OF 16

TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365



CROSS SECTION A-A'



CROSS SECTION B-B'

NOTE: CROSS SECTION B-B' DEPICTS
MAXIMUM RESERVE PIT DEPTH.

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-11F

WELL PAD - CROSS SECTIONS
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

(435) 789-1365

HORIZONTAL 0 50' 100' 1" = 100'
VERTICAL 0 10' 20' 1" = 20'

Scale: 1"=100'

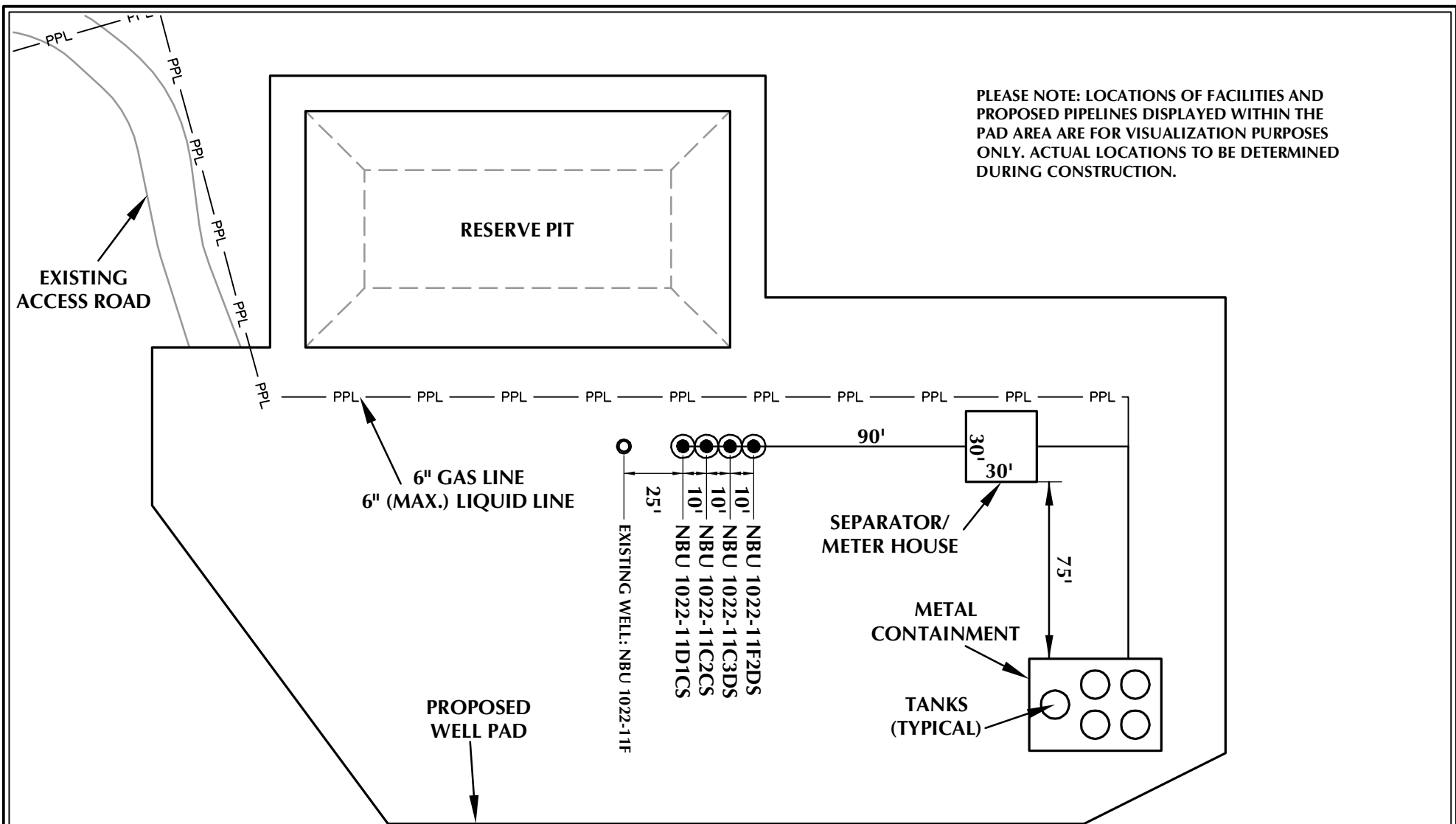
Date: 3/2/11

SHEET NO:

7

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RECEIVED: August 10, 2011



Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-11F

WELL PAD - FACILITIES DIAGRAM
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH



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Sheridan, WY 82801
Phone 307-674-0609
Fax 307-674-0182

WELL PAD LEGEND

- EXISTING WELL LOCATION
- PROPOSED WELL LOCATION
- PPL — PROPOSED PIPELINE
- EPL — EXISTING PIPELINE



HORIZONTAL 0 30' 60' 1" = 60'

TIMBERLINE
ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST • VERNAL, UTAH 84078

(435) 789-1365

Scale: 1"=60'

Date: 3/2/11

SHEET NO:

8

8 OF 16

RECEIVED: August 10, 2011

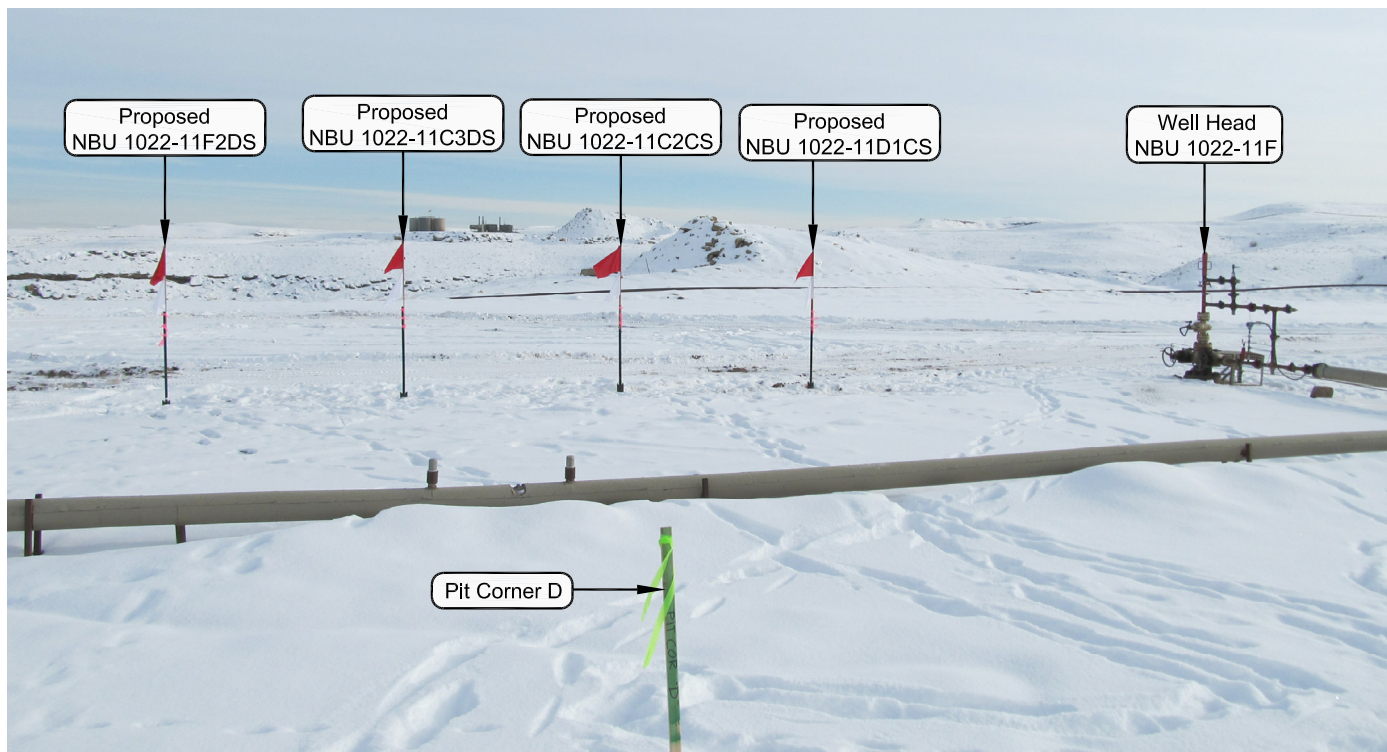


PHOTO VIEW: FROM PIT CORNER D TO LOCATION STAKE

CAMERA ANGLE: SOUTHEASTERLY



PHOTO VIEW: FROM EXISTING ACCESS ROAD

CAMERA ANGLE: SOUTHEASTERLY

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street - Denver, Colorado 80202

WELL PAD - NBU 1022-11F

LOCATION PHOTOS
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH.



CONSULTING, LLC
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Sheridan WY 82801
Phone 307-674-0609
Fax 307-674-0182

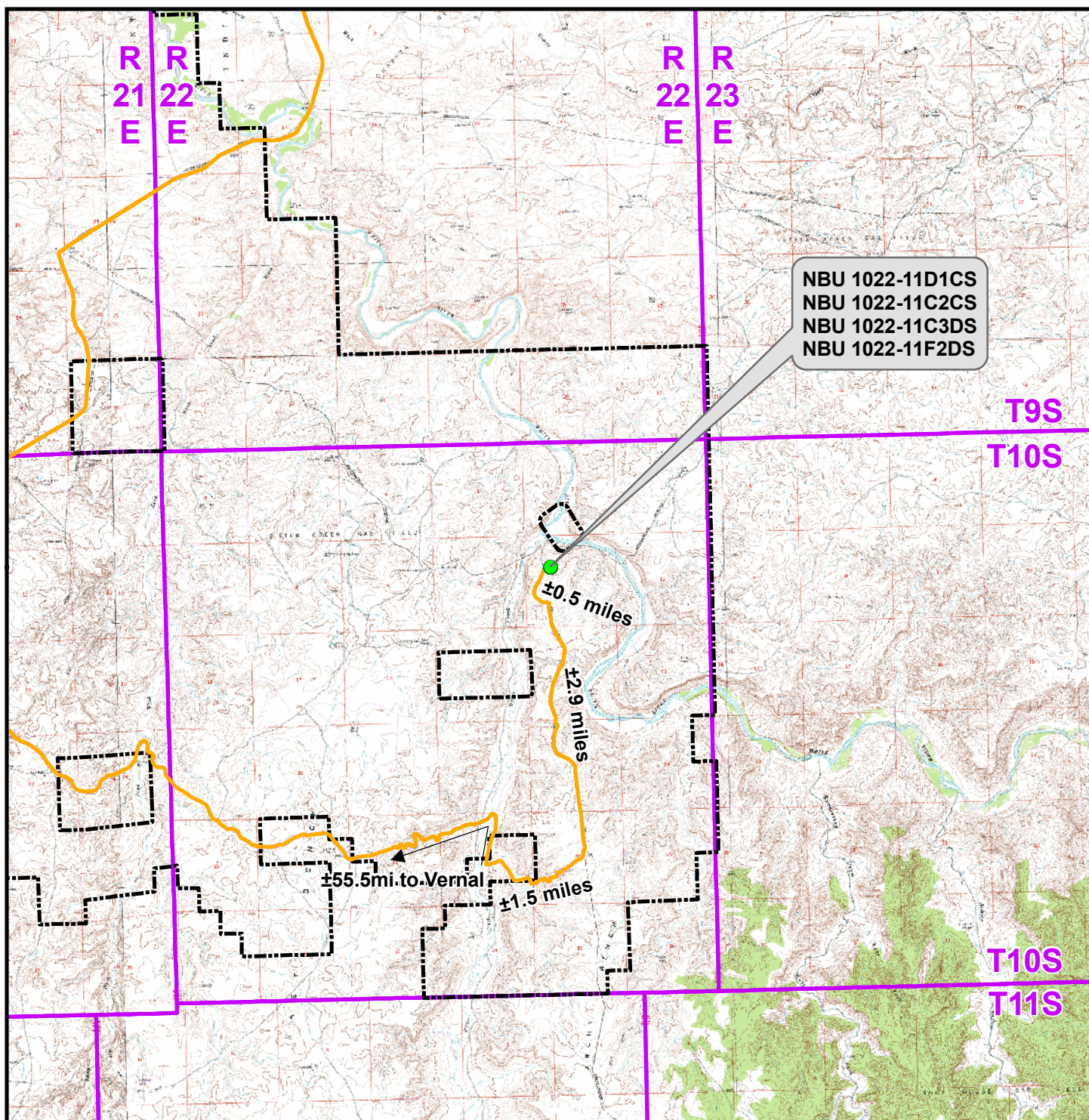
TIMBERLINE

(435) 789-1365

ENGINEERING & LAND SURVEYING, INC.
209 NORTH 300 WEST - VERNAL, UTAH 84078

DATE PHOTOS TAKEN: 01-12-11	PHOTOS TAKEN BY: M.S.B.	SHEET NO: 9 9 OF 16
DATE DRAWN: 01-13-11	DRAWN BY: E.M.S.	
Date Last Revised:		

RECEIVED: August 10, 2011



Legend

- Proposed Well Location
- Natural Buttes Unit Boundary
- Access Route - Proposed

Distance From Well Pad - NBU 1022-11F To Unit Boundary: $\pm 1,426$ ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-11F

TOPO A

NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH



CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182

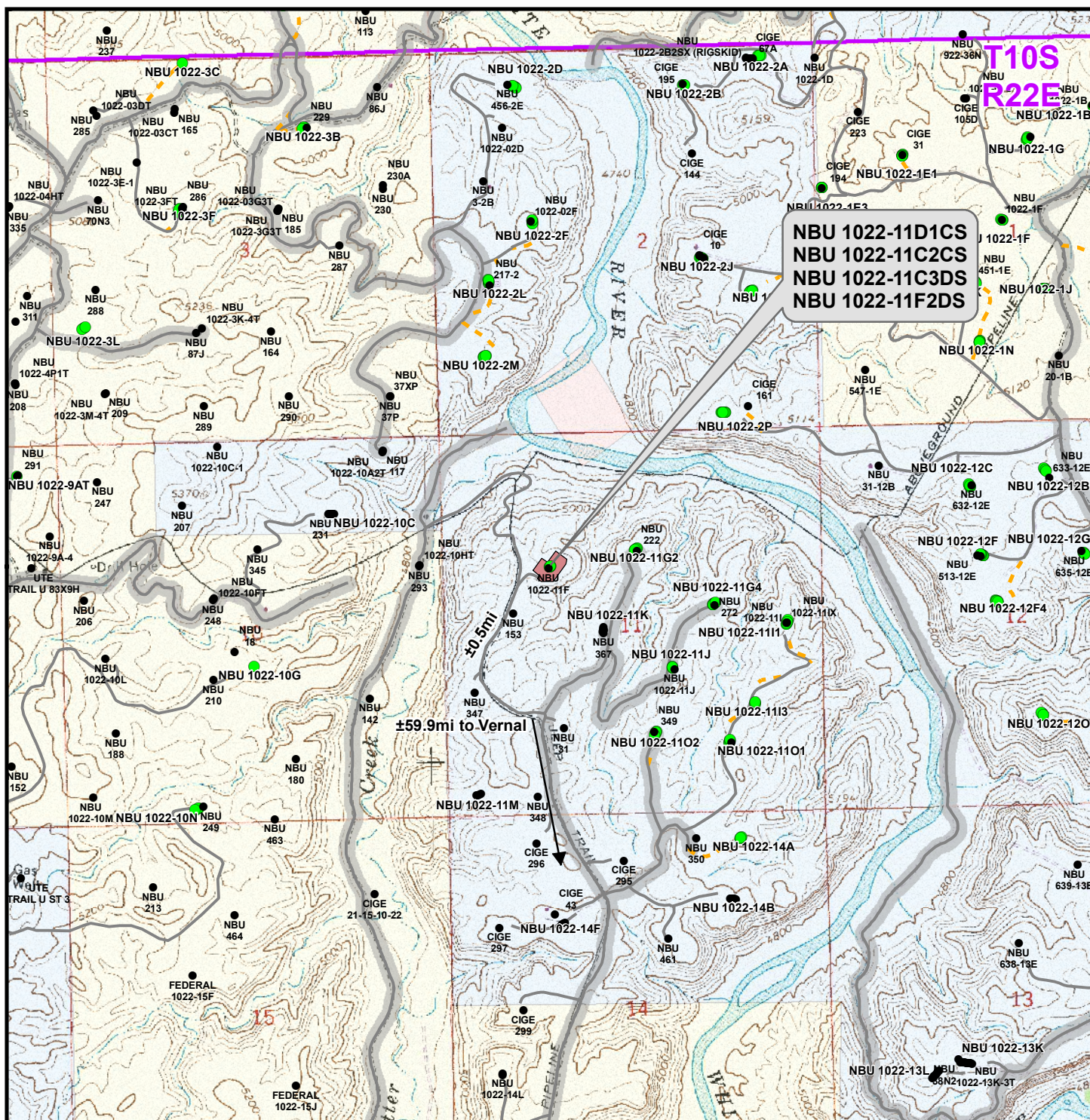


Scale: 1:100,000	NAD83 USP Central
Drawn: KGS	Date: 3 Mar 2011
Revised:	Date:

Sheet No:

10 10 of 16

RECEIVED: August 10, 2011



Legend

- | | | | | | |
|-------------------|------------|-----------------------|---------------|-----------------------------|-----------|
| ● Well - Proposed | ■ Well Pad | - - - Road - Proposed | ▬ County Road | ■ Bureau of Land Management | ■ State |
| ● Well - Existing | | ▬ Road - Existing | | ■ Indian Reservation | ■ Private |

Total Proposed Road Length: ±0ft

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-11F

TOPO B

NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UINTAH COUNTY, UTAH

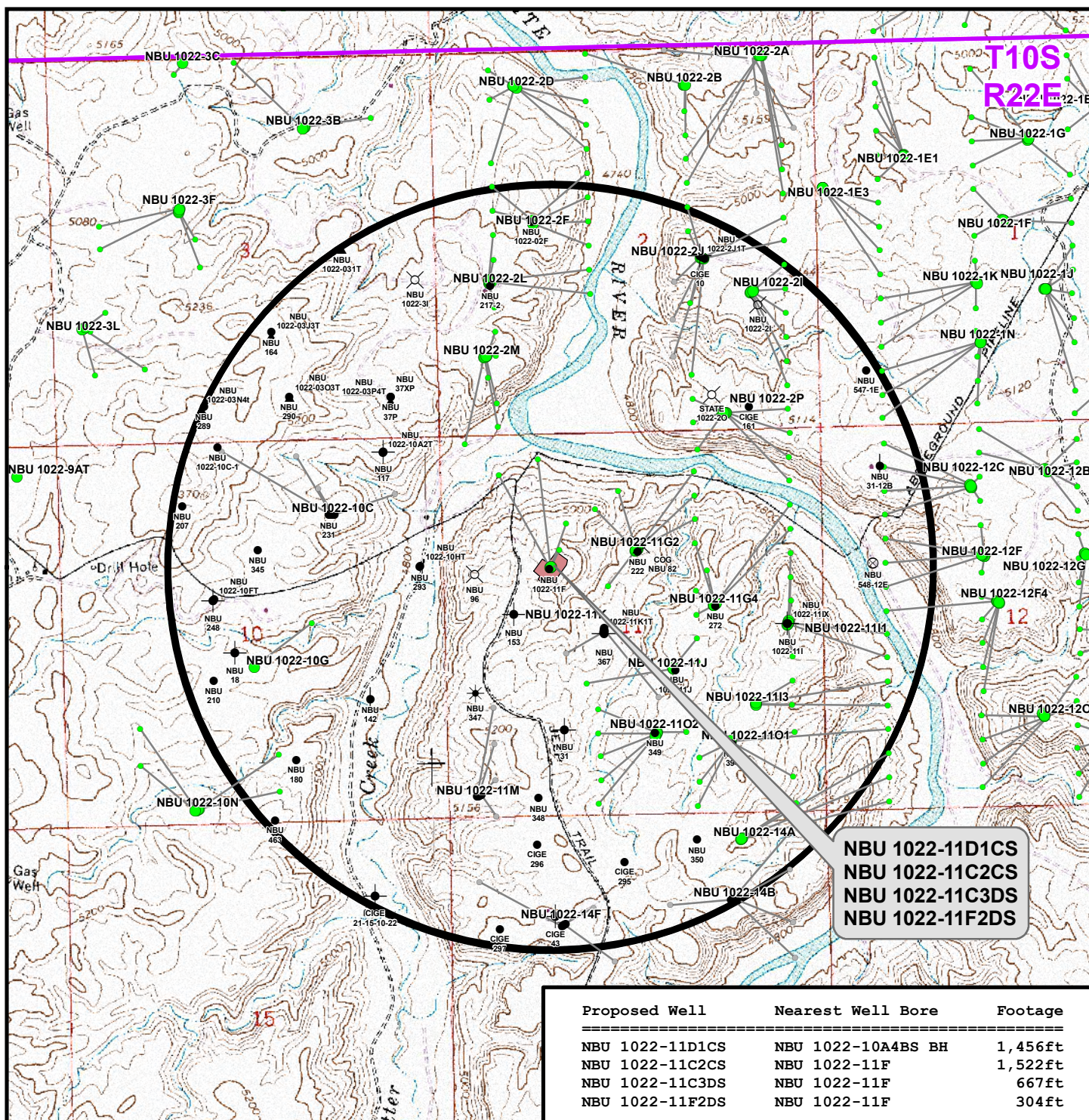


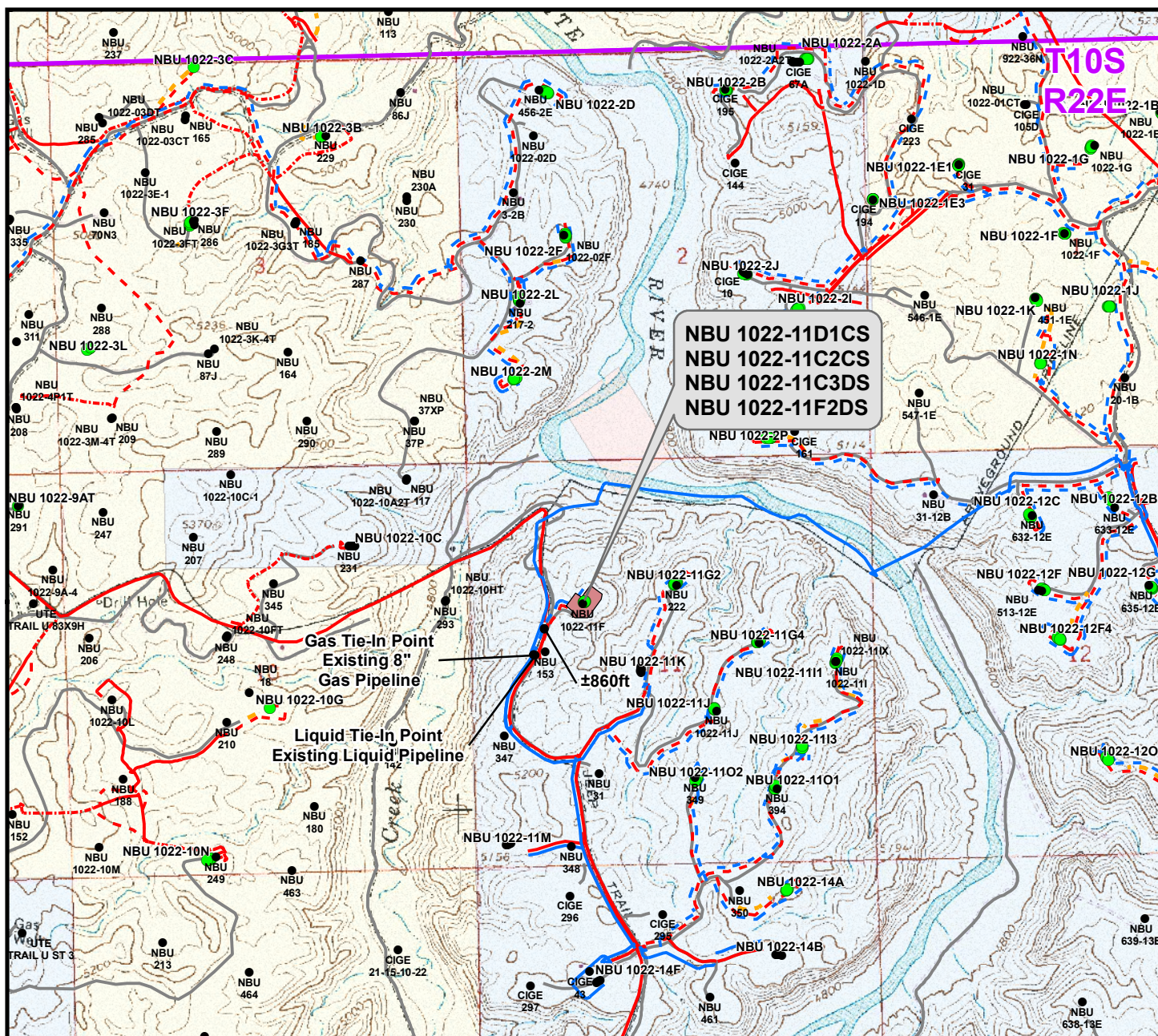
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2,000ft	NAD83 USP Central	Sheet No:
Drawn: KGS	Date: 8 Feb 2011	11 11 of 16
Revised:	Date:	

RECEIVED: August 10, 2011





Proposed Liquid Pipeline	Length	Proposed Gas Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±465ft	Proposed 6" (Meter House to Edge of Pad)	±465ft
Proposed 6" (Max.) (Edge of Pad to Existing Liquid Pipeline)	±860ft	Proposed 6" (Edge of Pad to Existing 8" Gas Pipeline)	±860ft
TOTAL PROPOSED LIQUID PIPELINE =	±1,325ft	TOTAL PROPOSED GAS PIPELINE =	±1,325ft

Legend

- Well - Proposed
- Well - Existing
- Well Pad
- - - Gas Pipeline - Proposed
- - - Gas Pipeline - To Be Upgraded
- - - Gas Pipeline - Existing
- - - Liquid Pipeline - Proposed
- - - Liquid Pipeline - Existing
- - - Road - Proposed
- - - Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-11F**TOPO D**

**NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH**

609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



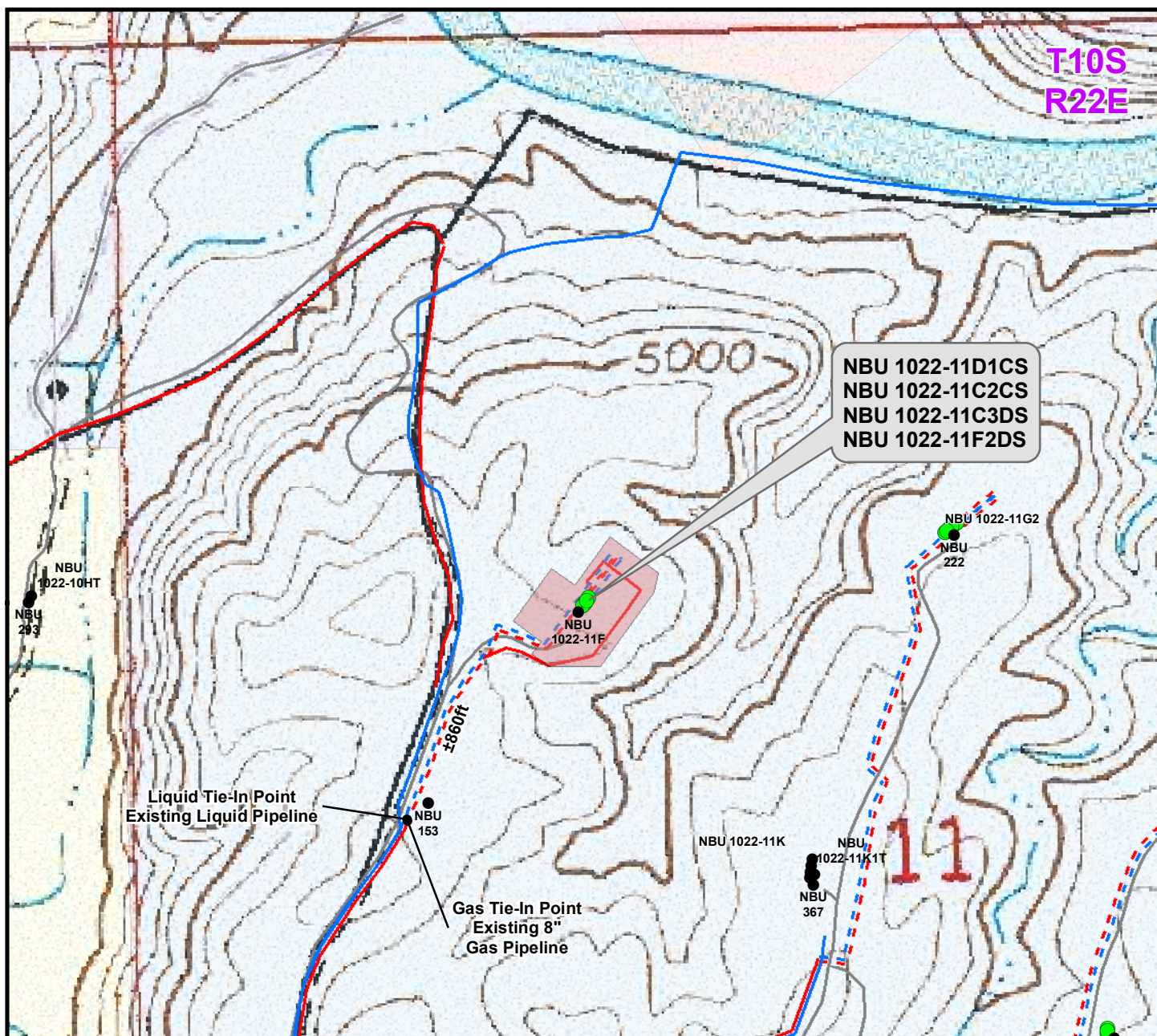
Scale: 1" = 2,000ft | NAD83 USP Central
Drawn: KGS | Date: 3 Mar 2011
Revised: | Date:

Sheet No:

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RECEIVED: August 10, 2011



Proposed Liquid Pipeline	Length
Proposed 6" (Max.) (Meter House to Edge of Pad)	±465ft
Proposed 6" (Max.) (Edge of Pad to Existing Liquid Pipeline)	±860ft
TOTAL PROPOSED LIQUID PIPELINE =	±1,325ft

Proposed Gas Pipeline	Length
Proposed 6" (Meter House to Edge of Pad)	±465ft
Proposed 6" (Edge of Pad to Existing 8" Gas Pipeline)	±860ft
TOTAL PROPOSED GAS PIPELINE =	±1,325ft

Legend

- Well - Proposed
 Well Pad
 --- Gas Pipeline - Proposed
 --- Liquid Pipeline - Proposed
 --- Road - Proposed
 Bureau of Land Management
- Well - Existing
 --- Gas Pipeline - To Be Upgraded
 --- Liquid Pipeline - Existing
 --- Road - Existing
 Indian Reservation
- Gas Pipeline - Existing
 State
 Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-11F

TOPO D2 (PAD & PIPELINE DETAIL)
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH

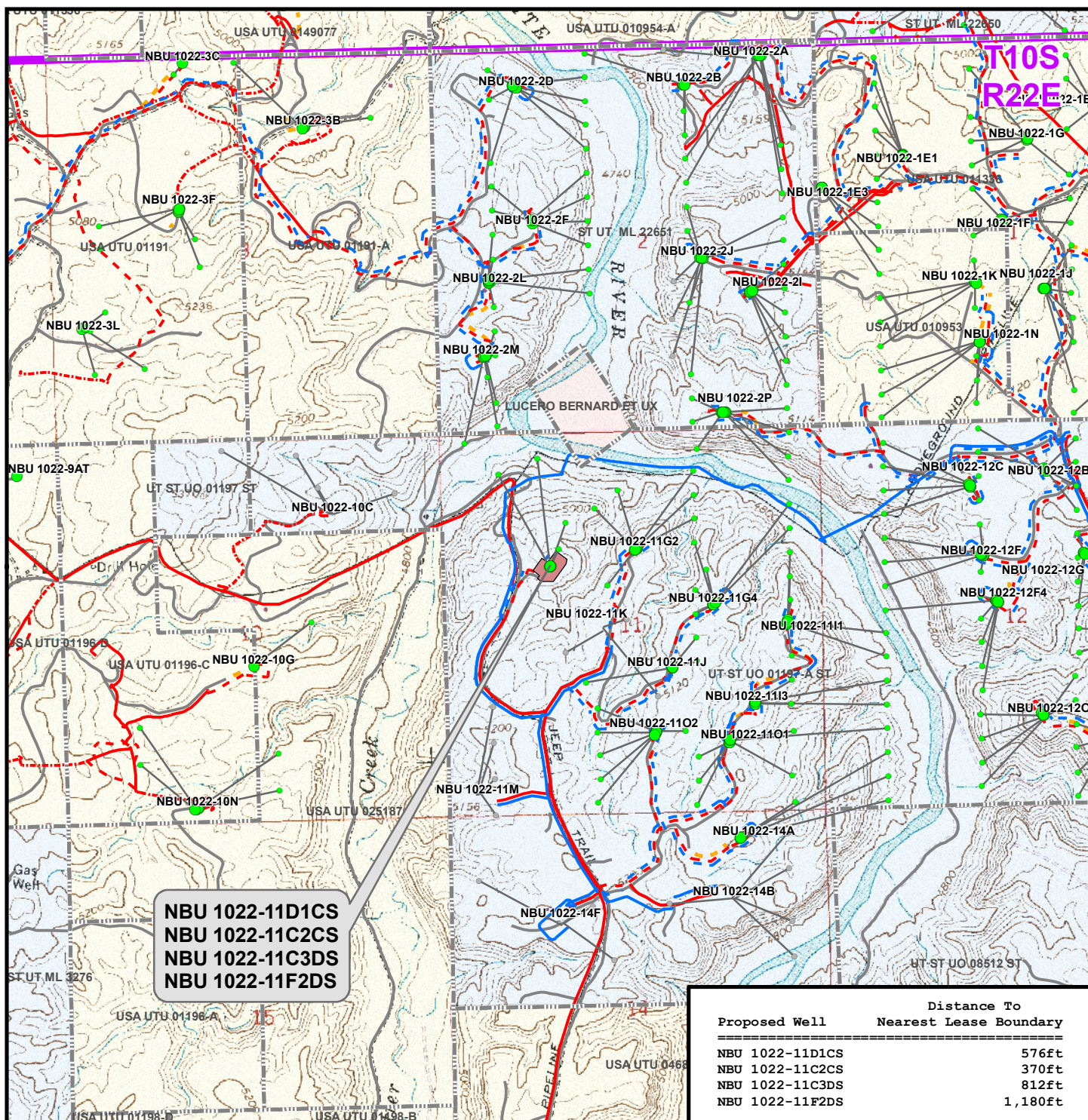
609
CONSULTING, LLC
 2155 North Main Street
 Sheridan, WY 82801
 Phone (307) 674-0609
 Fax (307) 674-0182



Scale: 1" = 500ft	NAD83 USP Central	Sheet No:
Drawn: KGS	Date: 8 Feb 2011	14
Revised:	Date:	

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Proposed Well	Distance To Nearest Lease Boundary
NBU 1022-11D1CS	576ft
NBU 1022-11C2CS	370ft
NBU 1022-11C3DS	812ft
NBU 1022-11F2DS	1,180ft

Legend

- Well - Proposed
- Bottom Hole - Proposed
- Bottom Hole - Existing
- Well Path
- Well Pad
- ▬ Lease Boundary
- Gas Pipeline - Proposed
- Gas Pipeline - To Be Upgraded
- Gas Pipeline - Existing
- Liquid Pipeline - Proposed
- Liquid Pipeline - Existing
- Road - Proposed
- Road - Existing
- Bureau of Land Management
- Indian Reservation
- State
- Private

Kerr-McGee Oil & Gas Onshore, LP
1099 18th Street, Denver, Colorado 80202

WELL PAD - NBU 1022-11F

TOPO E
NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
LOCATED IN SECTION 11, T10S, R22E,
S.L.B.&M., UTAH COUNTY, UTAH

609
CONSULTING, LLC
2155 North Main Street
Sheridan, WY 82801
Phone (307) 674-0609
Fax (307) 674-0182



Scale: 1" = 2,000ft | NAD83 USP Central | Sheet No:
Drawn: KGS | Date: 28 Jan 2011 | **15**
Revised: | Date: | 15 of 16

RECEIVED: August 10, 2011

Kerr-McGee Oil & Gas Onshore, LP
WELL PAD - NBU 1022-11F
WELLS – NBU 1022-11D1CS, NBU 1022-11C2CS,
NBU 1022-11C3DS & NBU 1022-11F2DS
Section 11, T10S, R22E, S.L.B.&M.

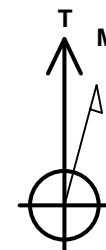
From the intersection of U.S. Highway 40 and 500 East Street in Vernal, Utah, proceed in an easterly, then southerly direction along U.S. Highway 40 approximately 3.3 miles to the junction of State Highway 45. Exit right and proceed in a southerly direction along State Highway 45 approximately 20.2 miles to the junction of the Glen Bench Road (County B Road 3260). Exit right and proceed in a southwesterly direction along the Glen Bench Road approximately 23.8 miles to the intersection of the Bitter Creek Road (County B Road 4120). Exit left and proceed in a southeasterly direction along the Bitter Creek Road approximately 8.2 miles to the junction of the Bitter Creek Cut Off Road (County B Road 4140). Exit left and proceed in an easterly direction along the Bitter Creek Cut Off Road approximately 1.5 miles to the junction of the Archy Bench Road (County D Road 4150). Exit left and proceed in a northerly direction along the Archy Bench Road approximately 2.9 miles to a service road to the northwest. Exit left and proceed in a northwesterly, then northeasterly direction approximately 0.5 miles to the proposed well location.

Total distance from Vernal, Utah to the proposed well location is approximately 60.4 miles in a southerly direction.

GL 5079' & 14'
@ 5093.00ft (ASSUMED)

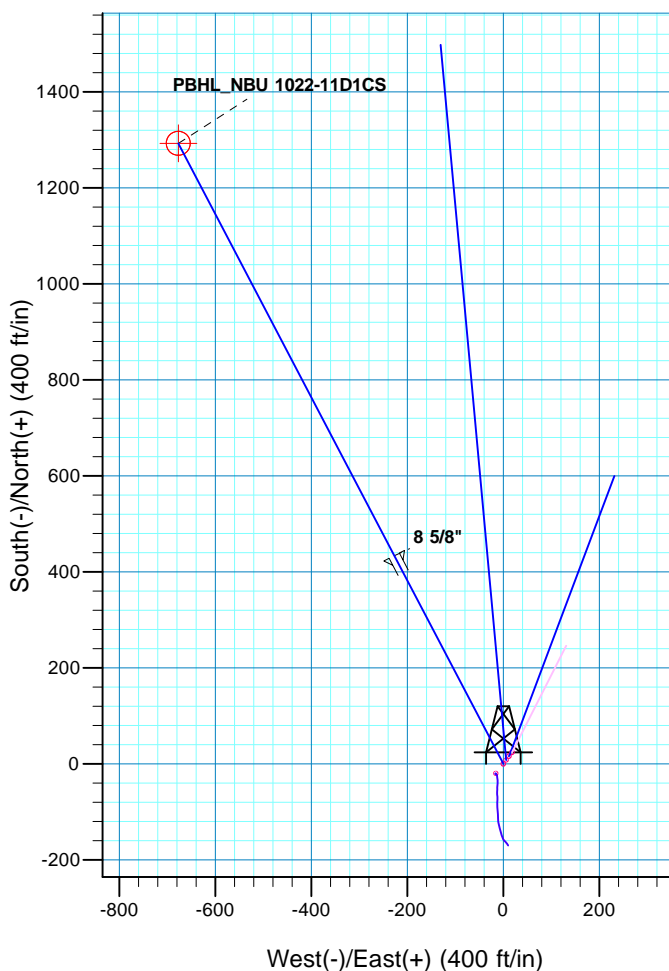
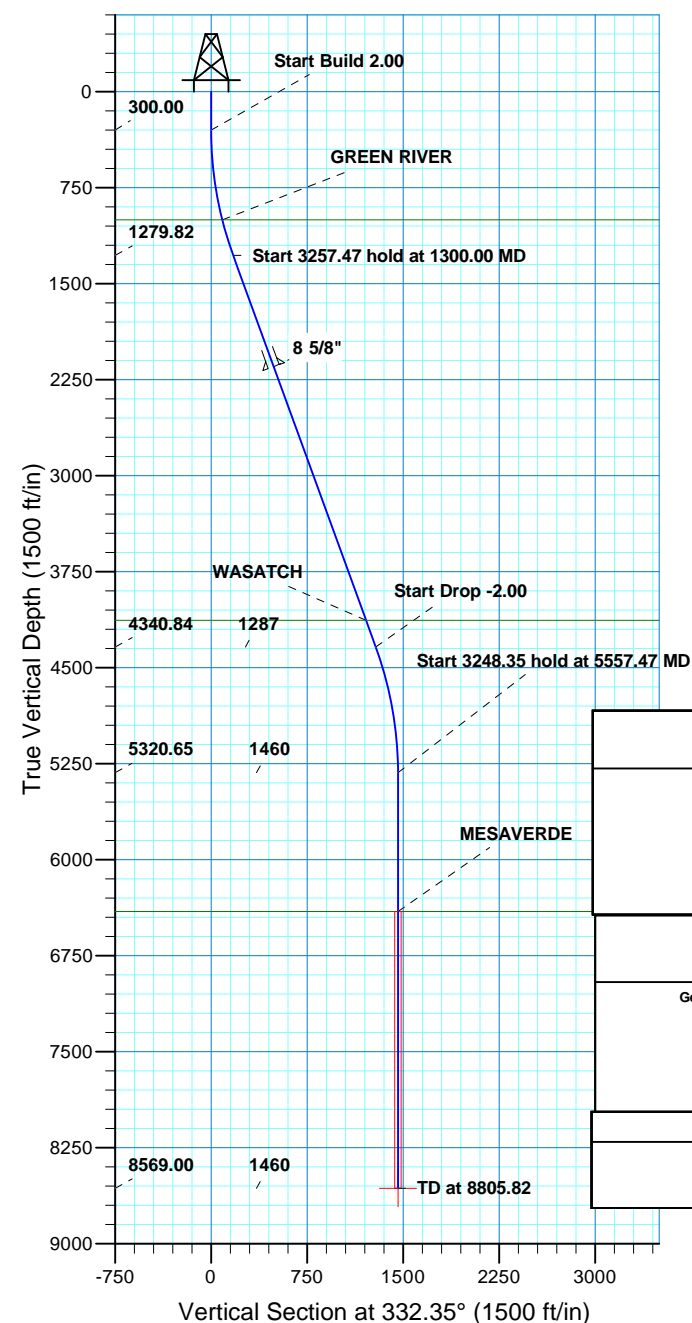
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.00	0.00	14517490.71	2085764.00	39° 57' 56.203 N	109° 24' 38.297 W

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
PBHL	8569.00	1292.97	-677.36	14518771.41	2085063.71	39° 58' 8.983 N	109° 24' 46.998 W	Circle (Radius: 25.00')



Azimuths to True North
Magnetic North: 11.04°

Magnetic Field
Strength: 52330.8snT
Dip Angle: 65.86°
Date: 05/13/2011
Model: IGRF2010



SECTION DETAILS

Vsect									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace		
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
1300.00	20.00	332.35	1279.82	153.04	-80.17	2.00	332.35	172.77	
5557.47	20.00	332.35	4340.84	1139.93	-597.19	0.00	0.00	1286.89	
5557.47	0.00	0.00	5320.65	1292.97	-677.36	2.00	180.00	1459.66	
8805.82	0.00	0.00	8569.00	1292.97	-677.36	0.00	0.00	1459.66	PBHL NBU 1022-11D1CS

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1003.00	1010.25	GREEN RIVER
4132.00	4335.23	WASATCH
6406.00	6642.82	MESAVERDE

PROJECT DETAILS: Uintah County, UT UTM12

Geodetic System: Universal Transverse Mercator (US Survey Feet)
Datum: NAD 1927 - Western US
Ellipsoid: Clarke 1866
Zone: Zone 12N (114 W to 108 W)
Location: SECTION 11 T10S R22E
System Datum: Mean Sea Level

CASING DETAILS

TVD	MD	Name	Size
2150.00	2226.03	8 5/8"	8.625

Plan: PLAN #1 5-13-11 RHS (NBU 1022-11D1CS/OH)

Created By: RobertScott Date: 12:26, May 13 2011

RECE



Kerr McGee Oil and Gas Onshore LP

Uintah County, UT UTM12

NBU 1022-11F PAD

NBU 1022-11D1CS

OH

Plan: PLAN #1 5-13-11 RHS

Standard Planning Report

13 May, 2011



RECEIVED: August 10, 2011



SDI Planning Report



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Company:	Kerr McGee Oil and Gas Onshore LP	TVD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Project:	Uintah County, UT UTM12	MD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Site:	NBU 1022-11F PAD	North Reference:	True
Well:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 5-13-11 RHS		

Project	Uintah County, UT UTM12		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 - Western US		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	NBU 1022-11F PAD, SECTION 11 T10S R22E		
Site Position:		Northing:	14,517,515.07 usft
From:	Lat/Long	Easting:	2,085,781.50 usft
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in
		Latitude:	39° 57' 56.441 N
		Longitude:	109° 24' 38.066 W
		Grid Convergence:	1.02 °

Well	NBU 1022-11D1CS, 1868 FNL 1493 FWL		
Well Position	+N/-S	-24.04 ft	Northing:
	+E/-W	-17.94 ft	Easting:
Position Uncertainty	0.00 ft	Wellhead Elevation:	
		Latitude:	39° 57' 56.203 N
		Longitude:	109° 24' 38.297 W
		Ground Level:	5,079.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	05/13/2011	11.04	65.86	52,331

Design	PLAN #1 5-13-11 RHS			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)
	0.00	0.00	0.00	332.35

Plan Sections										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,300.00	20.00	332.35	1,279.82	153.04	-80.17	2.00	2.00	0.00	332.35	
4,557.47	20.00	332.35	4,340.84	1,139.93	-597.19	0.00	0.00	0.00	0.00	
5,557.47	0.00	0.00	5,320.65	1,292.97	-677.36	2.00	-2.00	0.00	180.00	
8,805.82	0.00	0.00	8,569.00	1,292.97	-677.36	0.00	0.00	0.00	0.00	PBHL_NBU 1022-11C



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Company:	Kerr McGee Oil and Gas Onshore LP	TVD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Project:	Uintah County, UT UTM12	MD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Site:	NBU 1022-11F PAD	North Reference:	True
Well:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 5-13-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00
Start Build 2.00									
400.00	2.00	332.35	399.98	1.55	-0.81	1.75	2.00	2.00	0.00
500.00	4.00	332.35	499.84	6.18	-3.24	6.98	2.00	2.00	0.00
600.00	6.00	332.35	599.45	13.90	-7.28	15.69	2.00	2.00	0.00
700.00	8.00	332.35	698.70	24.70	-12.94	27.88	2.00	2.00	0.00
800.00	10.00	332.35	797.47	38.55	-20.20	43.52	2.00	2.00	0.00
900.00	12.00	332.35	895.62	55.45	-29.05	62.60	2.00	2.00	0.00
1,000.00	14.00	332.35	993.06	75.38	-39.49	85.10	2.00	2.00	0.00
1,010.25	14.21	332.35	1,003.00	77.59	-40.65	87.59	2.00	2.00	0.00
GREEN RIVER									
1,100.00	16.00	332.35	1,089.64	98.30	-51.50	110.98	2.00	2.00	0.00
1,200.00	18.00	332.35	1,185.27	124.20	-65.07	140.21	2.00	2.00	0.00
1,300.00	20.00	332.35	1,279.82	153.04	-80.17	172.77	2.00	2.00	0.00
Start 3257.47 hold at 1300.00 MD									
1,400.00	20.00	332.35	1,373.78	183.34	-96.05	206.97	0.00	0.00	0.00
1,500.00	20.00	332.35	1,467.75	213.63	-111.92	241.17	0.00	0.00	0.00
1,600.00	20.00	332.35	1,561.72	243.93	-127.79	275.37	0.00	0.00	0.00
1,700.00	20.00	332.35	1,655.69	274.22	-143.66	309.58	0.00	0.00	0.00
1,800.00	20.00	332.35	1,749.66	304.52	-159.53	343.78	0.00	0.00	0.00
1,900.00	20.00	332.35	1,843.63	334.82	-175.40	377.98	0.00	0.00	0.00
2,000.00	20.00	332.35	1,937.60	365.11	-191.27	412.18	0.00	0.00	0.00
2,100.00	20.00	332.35	2,031.57	395.41	-207.15	446.38	0.00	0.00	0.00
2,200.00	20.00	332.35	2,125.54	425.71	-223.02	480.59	0.00	0.00	0.00
2,226.03	20.00	332.35	2,150.00	433.59	-227.15	489.49	0.00	0.00	0.00
8 5/8"									
2,300.00	20.00	332.35	2,219.51	456.00	-238.89	514.79	0.00	0.00	0.00
2,400.00	20.00	332.35	2,313.48	486.30	-254.76	548.99	0.00	0.00	0.00
2,500.00	20.00	332.35	2,407.45	516.60	-270.63	583.19	0.00	0.00	0.00
2,600.00	20.00	332.35	2,501.42	546.89	-286.50	617.39	0.00	0.00	0.00
2,700.00	20.00	332.35	2,595.39	577.19	-302.38	651.60	0.00	0.00	0.00
2,800.00	20.00	332.35	2,689.35	607.48	-318.25	685.80	0.00	0.00	0.00
2,900.00	20.00	332.35	2,783.32	637.78	-334.12	720.00	0.00	0.00	0.00
3,000.00	20.00	332.35	2,877.29	668.08	-349.99	754.20	0.00	0.00	0.00
3,100.00	20.00	332.35	2,971.26	698.37	-365.86	788.40	0.00	0.00	0.00
3,200.00	20.00	332.35	3,065.23	728.67	-381.73	822.61	0.00	0.00	0.00
3,300.00	20.00	332.35	3,159.20	758.97	-397.61	856.81	0.00	0.00	0.00
3,400.00	20.00	332.35	3,253.17	789.26	-413.48	891.01	0.00	0.00	0.00
3,500.00	20.00	332.35	3,347.14	819.56	-429.35	925.21	0.00	0.00	0.00
3,600.00	20.00	332.35	3,441.11	849.86	-445.22	959.41	0.00	0.00	0.00
3,700.00	20.00	332.35	3,535.08	880.15	-461.09	993.62	0.00	0.00	0.00
3,800.00	20.00	332.35	3,629.05	910.45	-476.96	1,027.82	0.00	0.00	0.00
3,900.00	20.00	332.35	3,723.02	940.74	-492.84	1,062.02	0.00	0.00	0.00
4,000.00	20.00	332.35	3,816.99	971.04	-508.71	1,096.22	0.00	0.00	0.00
4,100.00	20.00	332.35	3,910.95	1,001.34	-524.58	1,130.42	0.00	0.00	0.00
4,200.00	20.00	332.35	4,004.92	1,031.63	-540.45	1,164.63	0.00	0.00	0.00
4,300.00	20.00	332.35	4,098.89	1,061.93	-556.32	1,198.83	0.00	0.00	0.00
4,335.23	20.00	332.35	4,132.00	1,072.60	-561.91	1,210.88	0.00	0.00	0.00



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Company:	Kerr McGee Oil and Gas Onshore LP	TVD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Project:	Uintah County, UT UTM12	MD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Site:	NBU 1022-11F PAD	North Reference:	True
Well:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 5-13-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
WASATCH									
4,400.00	20.00	332.35	4,192.86	1,092.23	-572.19	1,233.03	0.00	0.00	0.00
4,500.00	20.00	332.35	4,286.83	1,122.52	-588.06	1,267.23	0.00	0.00	0.00
4,557.47	20.00	332.35	4,340.84	1,139.93	-597.19	1,286.89	0.00	0.00	0.00
Start Drop -2.00									
4,600.00	19.15	332.35	4,380.91	1,152.56	-603.80	1,301.14	2.00	-2.00	0.00
4,700.00	17.15	332.35	4,475.93	1,180.15	-618.25	1,332.29	2.00	-2.00	0.00
4,800.00	15.15	332.35	4,571.98	1,204.78	-631.16	1,360.10	2.00	-2.00	0.00
4,900.00	13.15	332.35	4,668.94	1,226.44	-642.50	1,384.54	2.00	-2.00	0.00
5,000.00	11.15	332.35	4,766.69	1,245.08	-652.27	1,405.59	2.00	-2.00	0.00
5,100.00	9.15	332.35	4,865.12	1,260.69	-660.45	1,423.21	2.00	-2.00	0.00
5,200.00	7.15	332.35	4,964.11	1,273.24	-667.02	1,437.38	2.00	-2.00	0.00
5,300.00	5.15	332.35	5,063.53	1,282.73	-671.99	1,448.09	2.00	-2.00	0.00
5,400.00	3.15	332.35	5,163.26	1,289.14	-675.35	1,455.33	2.00	-2.00	0.00
5,500.00	1.15	332.35	5,263.19	1,292.46	-677.09	1,459.08	2.00	-2.00	0.00
5,557.47	0.00	0.00	5,320.65	1,292.97	-677.36	1,459.66	2.00	-2.00	0.00
Start 3248.35 hold at 5557.47 MD									
5,600.00	0.00	0.00	5,363.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
5,700.00	0.00	0.00	5,463.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
5,800.00	0.00	0.00	5,563.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
5,900.00	0.00	0.00	5,663.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,000.00	0.00	0.00	5,763.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,100.00	0.00	0.00	5,863.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,200.00	0.00	0.00	5,963.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,300.00	0.00	0.00	6,063.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,400.00	0.00	0.00	6,163.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,500.00	0.00	0.00	6,263.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,600.00	0.00	0.00	6,363.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,642.82	0.00	0.00	6,406.00	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
MESAVERDE									
6,700.00	0.00	0.00	6,463.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,800.00	0.00	0.00	6,563.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
6,900.00	0.00	0.00	6,663.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,000.00	0.00	0.00	6,763.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,100.00	0.00	0.00	6,863.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,200.00	0.00	0.00	6,963.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,300.00	0.00	0.00	7,063.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,400.00	0.00	0.00	7,163.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,500.00	0.00	0.00	7,263.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,600.00	0.00	0.00	7,363.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,700.00	0.00	0.00	7,463.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,800.00	0.00	0.00	7,563.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
7,900.00	0.00	0.00	7,663.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,000.00	0.00	0.00	7,763.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,100.00	0.00	0.00	7,863.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,200.00	0.00	0.00	7,963.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,300.00	0.00	0.00	8,063.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,400.00	0.00	0.00	8,163.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,500.00	0.00	0.00	8,263.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,600.00	0.00	0.00	8,363.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,700.00	0.00	0.00	8,463.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
8,800.00	0.00	0.00	8,563.18	1,292.97	-677.36	1,459.66	0.00	0.00	0.00



Database:	EDM5000-RobertS-Local	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Company:	Kerr McGee Oil and Gas Onshore LP	TVD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Project:	Uintah County, UT UTM12	MD Reference:	GL 5079' & 14' @ 5093.00ft (ASSUMED)
Site:	NBU 1022-11F PAD	North Reference:	True
Well:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	PLAN #1 5-13-11 RHS		

Planned Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
8,805.82	0.00	0.00	8,569.00	1,292.97	-677.36	1,459.66	0.00	0.00	0.00
TD at 8805.82 - PBHL_NBU 1022-11D1CS									

Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (ft)	+N/-S (ft)	+E/-W (ft)	Northing (usft)	Easting (usft)	Latitude	Longitude
PBHL_NBU 1022-11D1C - plan hits target center - Circle (radius 25.00)	0.00	0.00	8,569.00	1,292.97	-677.36	14,518,771.41	2,085,063.70	39° 58' 8.983 N	109° 24' 46.998 W

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
2,226.03	2,150.00	8 5/8"	8.625	11.000	

Formations					
Measured Depth (ft)	Vertical Depth (ft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,010.25	1,003.00	GREEN RIVER			
4,335.23	4,132.00	WASATCH			
6,642.82	6,406.00	MESAVERDE			

Plan Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
300.00	300.00	0.00	0.00	Start Build 2.00
1,300.00	1,279.82	153.04	-80.17	Start 3257.47 hold at 1300.00 MD
4,557.47	4,340.84	1,139.93	-597.19	Start Drop -2.00
5,557.47	5,320.65	1,292.97	-677.36	Start 3248.35 hold at 5557.47 MD
8,805.82	8,569.00	1,292.97	-677.36	TD at 8805.82

NBU 1022-11C2CS			
Surface:	1860 FNL / 1499 FWL	SENW	Lot
BHL:	370 FNL / 1365 FWL	NENW	Lot 1
NBU 1022-11C3DS			
Surface:	1852 FNL / 1505 FWL	SENW	Lot
BHL:	1268 FNL / 1726 FWL	NENW	Lot 1
NBU 1022-11D1CS			
Surface:	1868 FNL / 1493 FWL	SENW	Lot
BHL:	576 FNL / 818 FWL	NWNW	Lot
NBU 1022-11F2DS			
Surface:	1844 FNL / 1512 FWL	SENW	Lot
BHL:	1622 FNL / 1625 FWL	SENW	Lot

Pad: 1022-11F PAD
 Section 11 T10S R22E
 Mineral Lease: UO1197A-ST

Uintah County, Utah
 Operator: Kerr-McGee Oil & Gas Onshore LP

This SUPO contains surface operating procedures for Kerr-McGee Oil & Gas Onshore LP (KMG), a wholly owned subsidiary of Anadarko Petroleum Corporation (APC) pertaining to actions that involve the State of Utah School and Institutional Trust Lands Administration (SITLA) in the development of minerals leased to APC/KMG (including but not limited to, APDs/SULAs/ROEs/ROWs and/or easements.)

See associated Utah Division of Oil, Gas, and Mining (UDOGM) Form 3(s), plats, maps, and other attachments for site-specific information on projects represented herein.

In accordance with Utah Oil & Gas Conservation Rule R649-3-11 pertaining to Directional Drilling, these wells will be directionally drilled. Refer to Topo Map A for directions to the location and Topo Maps A and B for location of access roads within a 2-mile radius.

A. Existing Roads:

Existing roads consist of county and improved/unimproved lease roads. KMG will maintain existing roads in a condition that is the same as or better than before operations began and in a safe and usable condition. Maintenance of existing roads will continue until final abandonment and reclamation of well pads and/or other facilities. The road maintenance may include, but is not limited to, blading, ditching, culvert installation/cleanout, surfacing, and dust control.

Typically, roads, gathering lines and electrical distribution lines will occupy common disturbance corridors and roadways will be used as working space. All disturbances located in the same corridor will overlap each other to the maximum extent possible; in no case will the maximum disturbance width of the access road and utility corridors exceed 50', unless otherwise approved.

B. Planned Access Roads:

No new access road is proposed.

If there are roads that are new or to be reconstructed, they will be located, designed, and maintained to meet the standards of SITLA and other commonly accepted Best Management Practices (BMPs). If a new road/corridor were to cross a water of the United States, KMG will adhere to the requirements of applicable Nationwide or Individual Permits of the Department of Army Corps of Engineers.

During the onsite, turnouts, major cut and fills, culverts, bridges, gates, cattle guards, low water crossings, or modifications needed to existing infrastructure/facilities were determined, as applicable, are typically shown on attached Exhibits and Topo maps.

C. Location of Existing and Proposed Facilities:

This pad will expand the existing pad for the NBU 1022-11F. The NBU 1022-11F well location is a vertical producing well according to Utah Division of Oil, Gas and Mining (UDOGM) records as of August 5, 2011.

Production facilities (see Well Pad Design Summary and Facilities Diagram):

Production facilities will be installed on the disturbed portion of the well pad and may include bermed components (typically excluding dehy's and/or separators) that contain fluids (i.e. production tanks, produced liquids tanks). The berms will be constructed of compacted subsoil or corrugated metal, impervious, designed to hold 110% of the capacity of the largest tank, and be independent of the back cut. All permanent (on-site six months or longer) above ground structures constructed or installed, including pumping units, will be painted a flat, non-reflective, earth-tone color chosen at the onsite in coordination with SITLA.

Gathering Facilities:

The following pipeline transmission facilities will apply if the well is productive (see Topo D):

The total gas gathering (steel line pipe with fusion bond epoxy coating) pipeline distances from the meter to the tie in point is $\pm 1,325'$ and the individual segments are broken up as follows:

- $\pm 465'$ (0.09 miles) –New 6" buried gas pipeline from the meter to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 860'$ (0.16 miles) –New 6" buried gas pipeline from the edge of pad to the tie-in at the existing 8" gas pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

The total liquid gathering pipeline distance from the separator to the tie in point is $\pm 1,325'$ and the individual segments are broken up as follows:

- $\pm 465'$ (0.09 miles) –New 6" (max) buried liquid pipeline from the separator to the edge of the pad. Please refer to Topo D2 - Pad and Pipeline Detail.
- $\pm 860'$ (0.16 miles) –New 6" (max) buried liquid pipeline from the edge of pad to the tie-in at the existing liquid pipeline. Please refer to Topo D2 - Pad and Pipeline Detail.

The liquid gathering lines will be made of polyethylene or a composite polyethylene/steel or polyethylene/fiberglass that is not subject to internal or external pipe corrosion. The content of the produced fluids to be transferred by the liquid gathering system will be approximately 92% produced water and 8% condensate. Trunk line valve connections for the water gathering system will be below ground but accessible from the surface in order to prevent freezing during winter time.

The proposed pipelines will be buried and will include gas gathering and liquid gathering pipelines in the same trench. Where the pipeline is adjacent to the road or well pad, the road and/or well pad will be utilized for construction activities and staging. KMG requests a permanent 30' right-of-way adjacent to the road for life-of-project for maintenance, repairs, and/or upgrades, no additional right-of-way will be needed beyond the 30'. Where the pipeline is not adjacent to the road or well pad, KMG requests a temporary 45' construction right-of-way 30' permanent right-of-way.

The proposed trench width for the pipeline would range from 18-48 inches and will be excavated to a depth of 48 to 60 inches of normal soil cover or 24 inches of cover in consolidated rock. During construction blasting may occur along the proposed right-of-way where trenching equipment cannot cut into the bedrock. Large debris and rocks removed from the earth during trenching and blasting that could not be returned to the trench would be distributed evenly and naturally in the project area. The proposed pipelines will be pressure tested pneumatically (depending on size) or with fluids (either fresh or produced). If fluids are used, there will be no discharge to the surface.

Pipeline signs will be installed along the right-of-way to indicate the pipeline proximity and ownership, as well as to provide emergency contact phone numbers. Above ground valves, T's, and/or cathodic protection will be installed at various locations for connection, corrosion prevention and/or for safety purposes.

D. Location and Type of Water Supply:

Water for drilling purposes will be obtained from one of the following sources:

- Dalbo Inc.'s underground well located in Ouray, Utah, Sec. 32 T4S R3E, Water User Claim number 43-8496, application number 53617.
- Price Water Pumping Inc. Green River and White River, various sources, Water Right Number 49-1659, application number: a35745.

Water will be hauled to location over the roads marked on Maps A and B.

No water well is to be drilled on this lease.

E. Source of Construction Materials:

Construction operations will typically be completed with native materials found on location. If needed, construction materials that must be imported to the site (mineral material aggregate, soils or materials suitable for fill/surfacing) will be obtained from a nearby permitted source and described in subsequent Sundry requests. No construction materials will be removed from State lands without prior approval from SITLA.

F. Methods for Handling Waste Materials:

Should the well be productive, produced water will be contained in a water tank and will be transported by pipeline and/or truck to an approved disposal sites facilities and/or Salt Water Disposal (SWD) injection well. Currently, those facilities are:

RNI in Sec. 5 T9S R22E
Ace Oilfield in Sec. 2 T6S R20E
MC&MC in Sec. 12 T6S R19E
Pipeline Facility in Sec. 36 T9S R20E
Goat Pasture Evaporation Pond in SW/4 Sec. 16 T10S R22E
Bonanza Evaporation Pond in Sec. 2 T10S R23E
Ouray #1 SWD in Sec. 1 T9S R21E
NBU 159 SWD in Sec. 35 T9S R21E
CIGE 112D SWD in Sec. 19 T9S R21E
CIGE 114 SWD in Sec. 34 T9S R21E
NBU 921-34K SWD in Sec. 34 T9S R21E
NBU 921-33F SWD in Sec. 33 T9S R21E
NBU 921-34L SWD in Sec. 34 T9S R21E

Drill cuttings and/or fluids will be contained in the reserve/frac pit. Cuttings will be buried in pit(s) upon closure. Unless otherwise approved, no oil or other oil-based drilling additives, chromium/metals-based, or saline muds will be used during drilling. Only fresh water (as specified above), biodegradable polymer soap, bentonite clay, and/or non-toxic additives will be used in the mud system.

Pits will be constructed to minimize the accumulation of surface runoff. Should fluid hydrocarbons be encountered during drilling, completions or well testing, product will either be contained in test tanks on the well site or evacuated by vacuum trucks and transported to an approved disposal/sales facility. Should petroleum hydrocarbons unexpectedly be released into a pit, they will be removed as soon as practical but in no case will they remain longer than 72 hours unless an alternate is approved by SITLA. Should timely removal prove infeasible, the pit will be netted with mesh no larger than 1 inch until such time as hydrocarbons can be removed. Hydrocarbon removal will also take place prior to the closure of the pit, unless authorization is provided for disposal via alternative pit closure methods (e.g. solidification.)

The reserve and/or fracture stimulation pit will be lined with a synthetic material 20 mil or thicker. The liner will be installed over smooth fill subgrade that is free of pockets, loose rocks, or other materials (i.e. sand, sifted dirt, bentonite, straw, etc.) that could damage the liner. Any additional pits necessary for subsequent operations, such as temporary flare or workover pits, will be contained within the originally approved well pad and disturbance boundaries. Such temporary pits will be backfilled and reclaimed within 180 days of completion of work at a well location.

For the protection of livestock and wildlife, all open pits and cellars will be fenced/covered to prevent wildlife or livestock entry. Total height of pit fencing will be at least 42 inches and corner posts will be cemented and/or braced in such a manner as to keep the fence tight at all times. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distance between any 2 fence posts shall be no greater than 16 feet.

Pits containing drilling cuttings, mud, and/or completions fluids will be allowed to dry. Any free fluids remaining after after six (6) months from reaching total depth, date of completion, and/or determination of inactivity will be removed (as weather conditions allow) to an approved site and the pit reclaimed. Additional drying methods may include fly-ash solidification or sprinkler evaporation. Installation and operation of any sprinklers, pumps, and equipment will ensure that water spray or mist does not drift. Reserve pit liners will be cut off or folded as near to the mud surface as possible and as safety considerations allow and buried on location.

No garbage or non-exempt substances as defined by Resource Conservation and Recovery Act (RCRA) subtitle C will be placed in the reserve pit. All refuse generated during construction, drilling, completion, and well testing activities will be contained in an enclosed receptacle, removed from the drill locations promptly, and transported to an approved disposal facility.

Portable, self-contained chemical toilets and/or sewage processing facilities will be provided for human waste disposal. Upon completion of operations, or as required, the toilet holding tanks will be pumped and the contents disposed of in an approved sewage disposal facility. All applicable regulations pertaining to disposal of human and solid waste will be observed.

Any undesirable event, including accidental release of fluids, or release in excess of reportable quantities, will be managed according to the notification requirements of UDOGMs "Reporting Oil and Gas Undesirable Events" rule. Where State wells are participatory to a Federal agreement, according to NTL-3A, the appropriate Federal agencies will be notified.

Materials Management

Hazardous materials above reportable quantities will not be produced by drilling or completing proposed wells or constructing the pipelines/facilities. The term "hazardous materials" as used here means: (1) any substance, pollutant, or containment listed as hazardous under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended 42 U.S.C. 9601 et seq., and the regulations issued under CERCLA; and (2) any hazardous waste as defined in RCRA of 1976, as amended. In addition, no extremely hazardous substance, as defined in 40 CFR 355, in threshold planning quantities, would be used, produced, stored, transported, or disposed of while producing any well.

Chemicals subject to reporting under Title III of the Superfund Amendments and Reauthorization Act (SARA) in quantities of 10,000 pounds or more may be produced and/or stored at production facilities and may be kept in limited quantities on drilling sites and well locations for short periods of time during drilling or completion activities.

G. Ancillary Facilities:

None are anticipated.

H. Well Site Layout (see Well Pad Design Summary):

The location, orientation and aerial extent of each drill pad; reserve/completion/flare pit; access road ingress/egress points, drilling rig, dikes/ditches, existing wells/infrastructure; proposed cuts and fills; and topsoil and spoil material stockpile locations are depicted on the exhibits for each project, where applicable. Site-specific conditions may require slight deviation in actual equipment and facility layout; however, the area of disturbance, as described in the survey, will not be exceeded.

Coordinates are provided in the National Spatial Reference System, North American Datum, 1927 (NAD27) or latest edition. Distances are depicted on each plat to the nearest two adjacent section lines.

I. Plans for Reclamation of the Surface:

Surface reclamation will be undertaken in two phases: interim and final. Interim reclamation is conducted following well completion and extends through the period of production. This reclamation is for the area of the well pad that is not required for production activities. Final reclamation is conducted following well plugging/conversion and/or facility abandonment processes.

Reclamation activities in both phases may include but is not limited to the re-contouring or re-configuration of topographic surfaces, restoration of drainage systems, segregation of spoils materials, minimizing surface disturbance, re-evaluating backfill requirements, pit closure, topsoil redistribution, soil treatments, seeding and weed control.

Interim Reclamation

Interim reclamation includes pit closure, re-contouring (where possible), soil bed preparation, topsoil placement, seeding, and/or weed control.

Interim re-contouring involves bringing all construction material from cuts and fills back onto the well pad and site and reestablishing the natural contours where desirable and practical. Fill and stockpiled spoils no longer necessary to the operation will be spread on the cut slopes and covered with stockpiled topsoil. All stockpiled top soils will be used for interim reclamation where practical to maintain soil viability. Where possible, the land surface will be left "rough" after re-contouring to ensure that the maximum surface area will be available to support the reestablishment of vegetative cover.

A reserve pit, upon being allowed to dry, will be backfilled and compacted with cover materials that are void of any topsoil, vegetation, large stones, rocks or foreign objects. Soils that are moisture laden, saturated, or partially/completely frozen will not be used for backfill or cover. The pit area will be mounded to allow for settling and to promote positive surface drainage away from the pit.

Final Reclamation

Final reclamation will be performed for newly drilled unproductive wells and/or at the end of the life of a productive well. As soon as practical after the conclusion of drilling and testing operations, unproductive drill holes will be plugged and abandoned (P&A). Site and road reclamation will commence following plugging. In no case will reclamation at non-producing locations be initiated later than six (6) months from the date a well is plugged. A joint inspection of the disturbed area to be reclaimed may be requested by KMG. The primary purpose of this inspection will be to review the existing conditions, or agree upon a revised final reclamation and abandonment plan. A Notice of Intent to Abandon will be filed for final recommendations regarding surface reclamation.

After plugging, all wellhead equipment that is no longer needed will be removed, and the well site will be reclaimed. Final contouring will blend with and follow as closely as practical the natural terrain and contours of the original site and surrounding areas. After re-contouring, final grading will be conducted over the entire surface of the well site and access road. Where practical, the area will be ripped to a depth of 18 to 24 inches on 18 to 24-inch centers and surface materials will be pitted with small depressions to form longitudinal depressions 12 to 18 inches deep perpendicular to the natural flow of water.

All unnecessary surface equipment and structures (e.g. cattle guards) and water control structures (e.g. culverts, drainage pipes) not needed to facilitate successful reclamation will be removed during final reclamation. Roads that will be reclaimed will be ripped to a depth of 18 inches where practical, re-contoured to approximate the original contour of the ground and seeded.

Upon successfully completing reclamation of a P&A location, a Final Abandonment Notice will be submitted to UDOGM.

Seeding and Measures Common to Interim and Final Reclamation

Reclaimed areas may be fenced to exclude grazing and encourage re-vegetation.

On slopes where severe erosion can become a problem and the use of machinery is not practical, seed will be hand broadcast and raked with twice the specified amount of seed. The slope will be stabilized using materials specifically designed to prevent erosion on steep slopes and hold seed in place so vegetation can become permanently established. These materials will include, but are not limited to, erosion control blankets and bonded fiber matrix at a rate to achieve a minimum of 80 percent soil coverage.

NBU 1022-11C2CS/ 1022-11C3DS/ 1022-11D1CS/ 1022-11F2DS

Surface Use Plan of Operations
7 of 7

Seeding will occur year-round as conditions allow. Seed mixes appropriate to the native plant community as determined and specified for each project location based on the site specific soils will be used for re-vegetation. The site specific seed mix will be provided by SITLA.

J. Surface/Mineral Ownership:

SITLA
675 East 500 South, Suite 500
Salt Lake City, UT 84102

L. Other Information:

None

M. Lessee's or Operators' Representative & Certification:

Andy Lytle
Regulatory Analyst I
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6100

Tommy Thompson
General Manager, Drilling
Kerr-McGee Oil & Gas Onshore LP
PO Box 173779
Denver, CO 80217-3779
(720) 929-6724


Certification: All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice to Lessees.

The Operator will be fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Kerr-McGee Oil & Gas Onshore LP is considered to be the operator of the subject well. Kerr-McGee Oil & Gas Onshore LP agrees to be responsible under terms and conditions of the lease for the operations conducted upon leased lands.

Bond coverage for State lease activities is provided by State Surety Bond 22013542, and for applicable Federal lease activities and pursuant to 43 CFR 3104, by Bureau of Land Management Nationwide Bond WYB000291.

I hereby certify that I, or persons under my supervision, have inspected the proposed drill site and access route, that I am familiar with the conditions that currently exist; that I have full knowledge of the State and Federal laws applicable to this operation; that the statements made in this plan are, to the best of my knowledge, true and correct; and the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.


Andy Lytle

August 5, 2011

Date



JOSEPH D. JOHNSON
LANDMAN

Joseph D. Johnson
1099 18TH STREET STE. 1800 • DENVER, CO 80202
720-929-6708 • FAX 720-929-7708
E-MAIL: JOE.JOHNSON@ANADARKO.COM

August 5, 2011

Ms. Diana Mason
Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, UT 84114-6100

Re: Directional Drilling R649-3-11
NBU 1022-11D1CS
T10S-R22E
Section 11: SENW
Surface: 1868' FNL, 1493' FWL
T10S-R22E
Section 11: NWNW
Bottom Hole: 576' FNL, 818' FWL
Uintah County, Utah

Dear Ms. Mason:

Pursuant to the filing of Kerr-McGee Oil & Gas Onshore LP's (Kerr-McGee) Application for Permit to Drill regarding the above referenced well, we are hereby submitting this letter in accordance with Oil & Gas Conservation Rule R649-3-11 pertaining to the Exception to Location and Siting of Wells.

- Kerr-McGee's NBU 1022-11D1CS is located within the Natural Buttes Unit area.
- Kerr-McGee is permitting this well as a directional well in order to minimize surface disturbance. Locating the well at the surface location and directionally drilling from this location, Kerr-McGee will be able to utilize the existing road and pipelines in the area.
- Furthermore, Kerr-McGee certifies that it is the sole working interest owner within 460 feet of the entire directional well bore.

Therefore, based on the above stated information Kerr-McGee Oil & Gas Onshore LP requests the permit be granted pursuant to R649-3-11.

Sincerely,

KERR-MCGEE OIL & GAS ONSHORE LP

A handwritten signature in blue ink, appearing to read 'Joe D. Johnson', with a horizontal line drawn underneath.

Joseph D. Johnson
Landman

RECEIVED: August 10, 2011

United States Department of the Interior

BUREAU OF LAND MANAGEMENT

Utah State Office

P.O. Box 45155

Salt Lake City, Utah 84145-0155

IN REPLY REFER TO:

3160

(UT-922)

August 19, 2011

Memorandum

To: Assistant District Manager Minerals, Vernal District

From: Michael Coulthard, Petroleum Engineer

Subject: 2011 Plan of Development Natural Buttes Unit
Uintah County, Utah.

Pursuant to email between Diana Whitney, Division of Oil, Gas and Mining, and Mickey Coulthard, Utah State Office, Bureau of Land Management, the following wells are planned for calendar year 2011 within the Natural Buttes Unit, Uintah County, Utah.

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-11F PAD

43-047-51797	NBU 1022-11C2CS	Sec 11 T10S R22E 1860 FNL 1499 FWL
	BHL	Sec 11 T10S R22E 0370 FNL 1365 FWL

43-047-51799	NBU 1022-11C3DS	Sec 11 T10S R22E 1852 FNL 1505 FWL
	BHL	Sec 11 T10S R22E 1268 FNL 1726 FWL

43-047-51800	NBU 1022-11D1CS	Sec 11 T10S R22E 1868 FNL 1493 FWL
	BHL	Sec 11 T10S R22E 0576 FNL 0818 FWL

43-047-51801	NBU 1022-11F2DS	Sec 11 T10S R22E 1844 FNL 1512 FWL
	BHL	Sec 11 T10S R22E 1622 FNL 1625 FWL

NBU 1022-11G2 PAD

43-047-51802	NBU 1022-11B4CS	Sec 11 T10S R22E 1627 FNL 2594 FEL
	BHL	Sec 11 T10S R22E 1238 FNL 1803 FEL

43-047-51813	NBU 1022-11B4BS	Sec 11 T10S R22E 1633 FNL 2601 FEL
	BHL	Sec 11 T10S R22E 0908 FNL 1804 FEL

43-047-51815	NBU 1022-11B1CS	Sec 11 T10S R22E 1639 FNL 2609 FEL
	BHL	Sec 11 T10S R22E 0577 FNL 1805 FEL

43-047-51817	NBU 1022-C4AS	Sec 11 T10S R22E 1645 FNL 2617 FEL
	BHL	Sec 11 T10S R22E 0825 FNL 2462 FWL

43-047-51818	NBU 1022-11C4CS	Sec 11 T10S R22E 1651 FNL 2625 FEL
	BHL	Sec 11 T10S R22E 1071 FNL 2131 FWL

RECEIVED: August 22, 2011

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51855	NBU 1022-11F4AS	Sec 11 T10S R22E 1657 FNL 2633 FEL
	BHL	Sec 11 T10S R22E 2138 FNL 2288 FWL
NBU 1022-2A PAD		
43-047-51803	NBU 1022-2G1CS	Sec 02 T10S R22E 0165 FNL 0760 FEL
	BHL	Sec 02 T10S R22E 1905 FNL 1814 FEL
43-047-51807	NBU 1022-2G1BS	Sec 02 T10S R22E 0164 FNL 0770 FEL
	BHL	Sec 02 T10S R22E 1573 FNL 1815 FEL
43-047-51808	NBU 1022-2H1BS	Sec 02 T10S R22E 0167 FNL 0730 FEL
	BHL	Sec 02 T10S R22E 1410 FNL 0494 FEL
43-047-51812	NBU 1022-2H1CS	Sec 02 T10S R22E 0166 FNL 0740 FEL
	BHL	Sec 02 T10S R22E 1743 FNL 0494 FEL
43-047-51825	NBU 1022-2H4BS	Sec 02 T10S R22E 0165 FNL 0750 FEL
	BHL	Sec 02 T10S R22E 2074 FNL 0493 FEL
NBU 1022-11G4 PAD		
43-047-51805	NBU 1022-11A4CS	Sec 11 T10S R22E 2411 FNL 1535 FEL
	BHL	Sec 11 T10S R22E 1075 FNL 0490 FEL
43-047-51814	NBU 1022-11H1BS	Sec 11 T10S R22E 2405 FNL 1526 FEL
	BHL	Sec 11 T10S R22E 1406 FNL 0490 FEL
43-047-51822	NBU 1022-11G4CS	Sec 11 T10S R22E 2435 FNL 1566 FEL
	BHL	Sec 11 T10S R22E 2559 FNL 1799 FEL
43-047-51823	NBU 1022-11G1BS	Sec 11 T10S R22E 2423 FNL 1550 FEL
	BHL	Sec 11 T10S R22E 1568 FNL 1802 FEL
43-047-51837	NBU 1022-11G1CS	Sec 11 T10S R22E 2417 FNL 1542 FEL
	BHL	Sec 11 T10S R22E 1954 FNL 1646 FEL
43-047-51853	NBU 1022-11G4BS	Sec 11 T10S R22E 2429 FNL 1558 FEL
	BHL	Sec 11 T10S R22E 2229 FNL 1800 FEL
NBU 1022-2I PAD		
43-047-51809	NBU 1022-2I4CS	Sec 02 T10S R22E 1886 FSL 0949 FEL
	BHL	Sec 02 T10S R22E 1576 FSL 0492 FEL
43-047-51810	NBU 1022-2P1BS	Sec 02 T10S R22E 1881 FSL 0957 FEL
	BHL	Sec 02 T10S R22E 1245 FSL 0492 FEL
43-047-51824	NBU 1022-2I1CS	Sec 02 T10S R22E 1895 FSL 0931 FEL
	BHL	Sec 02 T10S R22E 2240 FSL 0493 FEL
43-047-51829	NBU 1022-2I4BS	Sec 02 T10S R22E 1890 FSL 0940 FEL
	BHL	Sec 02 T10S R22E 1909 FSL 0492 FEL
43-047-51838	NBU 1022-2P4BS	Sec 02 T10S R22E 1872 FSL 0975 FEL
	BHL	Sec 02 T10S R22E 0581 FSL 0492 FEL
43-047-51852	NBU 1022-2P1CS	Sec 02 T10S R22E 1877 FSL 0966 FEL
	BHL	Sec 02 T10S R22E 0913 FSL 0492 FEL
NBU 1022-2B PAD		
43-047-51811	NBU 1022-2B1CS	Sec 02 T10S R22E 0544 FNL 1813 FEL
	BHL	Sec 02 T10S R22E 0579 FNL 1818 FEL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51827	NBU 1022-2B4CS	Sec 02 T10S R22E 0543 FNL 1793 FEL
	BHL	Sec 02 T10S R22E 1242 FNL 1816 FEL
43-047-51828	NBU 1022-2B4BS	Sec 02 T10S R22E 0543 FNL 1803 FEL
	BHL	Sec 02 T10S R22E 0910 FNL 1817 FEL
43-047-51830	NBU 1022-2C1BS	Sec 02 T10S R22E 0544 FNL 1823 FEL
	BHL	Sec 02 T10S R22E 0090 FNL 2158 FWL
NBU 1022-11J PAD		
43-047-51816	NBU 1022-11K4BS	Sec 11 T10S R22E 1980 FSL 2131 FEL
	BHL	Sec 11 T10S R22E 1804 FSL 1963 FWL
43-047-51843	NBU 1022-11J1CS	Sec 11 T10S R22E 1990 FSL 2130 FEL
	BHL	Sec 11 T10S R22E 2065 FSL 1797 FEL
43-047-51851	NBU 1022-11J1BS	Sec 11 T10S R22E 2000 FSL 2129 FEL
	BHL	Sec 11 T10S R22E 2395 FSL 1798 FEL
NBU 1022-2J PAD		
43-047-51819	NBU 1022-2G4CS	Sec 02 T10S R22E 2375 FSL 1639 FEL
	BHL	Sec 02 T10S R22E 2568 FNL 1813 FEL
43-047-51820	NBU 1022-2H4CS	Sec 02 T10S R22E 2351 FSL 1584 FEL
	BHL	Sec 02 T10S R22E 2406 FNL 0493 FEL
43-047-51844	NBU 1022-2J4BS	Sec 02 T10S R22E 2367 FSL 1621 FEL
	BHL	Sec 02 T10S R22E 1741 FSL 1811 FEL
43-047-51845	NBU 1022-2O1CS	Sec 02 T10S R22E 2343 FSL 1566 FEL
	BHL	Sec 02 T10S R22E 0747 FSL 1808 FEL
43-047-51847	NBU 1022-2I1BS	Sec 02 T10S R22E 2347 FSL 1575 FEL
	BHL	Sec 02 T10S R22E 2572 FSL 0493 FEL
43-047-51854	NBU 1022-2G4BS	Sec 02 T10S R22E 2359 FSL 1602 FEL
	BHL	Sec 02 T10S R22E 2237 FNL 1814 FEL
NBU 1022-O1 PAD		
43-047-51821	NBU 1022-11O1CS	Sec 11 T10S R22E 0944 FSL 1360 FEL
	BHL	Sec 11 T10S R22E 0744 FSL 1793 FEL
43-047-51831	NBU 1022-11O4CS	Sec 11 T10S R22E 0925 FSL 1366 FEL
	BHL	Sec 11 T10S R22E 0079 FSL 1824 FEL
43-047-51832	NBU 1022-11P1BS	Sec 11 T10S R22E 0973 FSL 1351 FEL
	BHL	Sec 11 T10S R22E 1068 FSL 0474 FEL
43-047-51833	NBU 1022-11P4BS	Sec 11 T10S R22E 0954 FSL 1357 FEL
	BHL	Sec 11 T10S R22E 0456 FSL 0504 FEL
43-047-51836	NBU 1022-12M1BS	Sec 11 T10S R22E 0963 FSL 1354 FEL
	BHL	Sec 12 T10S R22E 1077 FSL 0824 FWL
43-047-51856	NBU 1022-11O4BS	Sec 11 T10S R22E 0935 FSL 1363 FEL
	BHL	Sec 11 T10S R22E 0413 FSL 1792 FEL

API #	WELL NAME	LOCATION
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(Proposed PZ WASATCH-MESA VERDE)

NBU 1022-11I1 PAD

43-047-51834	NBU 1022-11I1CS	Sec 11 T10S R22E 2545 FSL 0532 FEL
	BHL	Sec 11 T10S R22E 2112 FSL 0481 FEL

43-047-51835	NBU 1022-12L1CS	Sec 11 T10S R22E 2554 FSL 0528 FEL
	BHL	Sec 12 T10S R22E 2070 0FSL 823 FWL

43-047-51857	NBU 1022-11H4BS	Sec 11 T10S R22E 2582 FSL 0518 FEL
	BHL	Sec 11 T10S R22E 2067 FNL 0489 FEL

43-047-51858	NBU 1022-11H4CS	Sec 11 T10S R22E 2592 FSL 0514 FEL
	BHL	Sec 11 T10S R22E 2398 FNL 0489 FEL

43-047-51861	NBU 1022-12L1BS	Sec 11 T10S R22E 2564 FSL 0525 FEL
	BHL	Sec 12 T10S R22E 2401 FSL 0822 FWL

43-047-51863	NBU 1022-11H1CS	Sec 11 T10S R22E 2573 FSL 0521 FEL
	BHL	Sec 11 T10S R22E 1737 FNL 0490 FEL

NBU 1022-2P PAD

43-047-51839	NBU 1022-2P4CS	Sec 02 T10S R22E 0221 FSL 1342 FEL
	BHL	Sec 02 T10S R22E 0255 FSL 0496 FEL

43-047-51841	NBU 1022-11B1BS	Sec 02 T10S R22E 0221 FSL 1382 FEL
	BHL	Sec 11 T10S R22E 0280 FNL 1755 FEL

43-047-51842	NBU 1022-11A1BS	Sec 02 T10S R22E 0221 FSL 1352 FEL
	BHL	Sec 11 T10S R22E 0080 FNL 0473 FEL

43-047-51846	NBU 1022-2O4CS	Sec 02 T10S R22E 0220 FSL 1402 FEL
	BHL	Sec 02 T10S R22E 0095 FSL 1804 FEL

43-047-51848	NBU 1022-11A4BS	Sec 02 T10S R22E 0221 FSL 1372 FEL
	BHL	Sec 11 T10S R22E 0744 FNL 0490 FEL

43-047-51849	NBU 1022-2O4BS	Sec 02 T10S R22E 0221 FSL 1392 FEL
	BHL	Sec 02 T10S R22E 0415 FSL 1807 FEL

43-047-51850	NBU 1022-11A1CS	Sec 02 T10S R22E 0221 FSL 1362 FEL
	BHL	Sec 11 T10S R22E 0413 FNL 0491 FEL

NBU 1022-14A PAD

43-047-51840	NBU 1022-11P4CS	Sec 14 T10S R22E 0379 FNL 1228 FEL
	BHL	Sec 11 T10S R22E 0088 FSL 0466 FEL

43-047-51860	NBU 1022-12M1CS	Sec 14 T10S R22E 0385 FNL 1236 FEL
	BHL	Sec 12 T10S R22E 0746 FSL 0825 FWL

43-047-51868	NBU 1022-12M4BS	Sec 14 T10S R22E 0391 FNL 1244 FEL
	BHL	Sec 12 T10S R22E 0415 FSL 0825 FWL

43-047-51870	NBU 1022-12M4CS	Sec 14 T10S R22E 0397 FNL 1252 FEL
	BHL	Sec 12 T10S R22E 0086 FSL 0819 FWL

NBU 1022-11O2 PAD

43-047-51859	NBU 1022-11K4CS	Sec 11 T10S R22E 1103 FSL 2372 FEL
	BHL	Sec 11 T10S R22E 1442 FSL 2113 FWL

API #	WELL NAME	LOCATION
(Proposed PZ WASATCH-MESA VERDE)		
43-047-51862	NBU 1022-11N1BS	Sec 11 T10S R22E 1094 FSL 2377 FEL
	BHL	Sec 11 T10S R22E 1111 FSL 2105 FWL
43-047-51864	NBU 1022-11N1CS	Sec 11 T10S R22E 1085 FSL 2382 FEL
	BHL	Sec 11 T10S R22E 0801 FSL 2127 FWL
43-047-51865	NBU 1022-11N4BS	Sec 11 T10S R22E 1077 FSL 2387 FEL
	BHL	Sec 11 T10S R22E 0462 FSL 2127 FWL
43-047-51867	NBU 1022-11N4CS	Sec 11 T10S R22E 1068 FSL 2392 FEL
	BHL	Sec 11 T10S R22E 0146 FSL 2084 FWL
43-047-51869	NBU 1022-11O2AS	Sec 11 T10S R22E 1111 FSL 2367 FEL
	BHL	Sec 11 T10S R22E 1102 FSL 1964 FEL
NBU 1022-11I3 PAD		
43-047-51866	NBU 1022-11I4BS	Sec 11 T10S R22E 1489 FSL 0996 FEL
	BHL	Sec 11 T10S R22E 1774 FSL 0485 FEL
43-047-51871	NBU 1022-11I4CS	Sec 11 T10S R22E 1459 FSL 0997 FEL
	BHL	Sec 11 T10S R22E 1443 FSL 0497 FEL
43-047-51872	NBU 1022-12L4BS	Sec 11 T10S R22E 1479 FSL 0996 FEL
	BHL	Sec 12 T10S R22E 1739 FSL 0823 FWL
43-047-51873	NBU 1022-12L4CS	Sec 11 T10S R22E 1469 FSL 0996 FEL
	BHL	Sec 12 T10S R22E 1408 FSL 0824 FWL

This office has no objection to permitting the wells at this time.

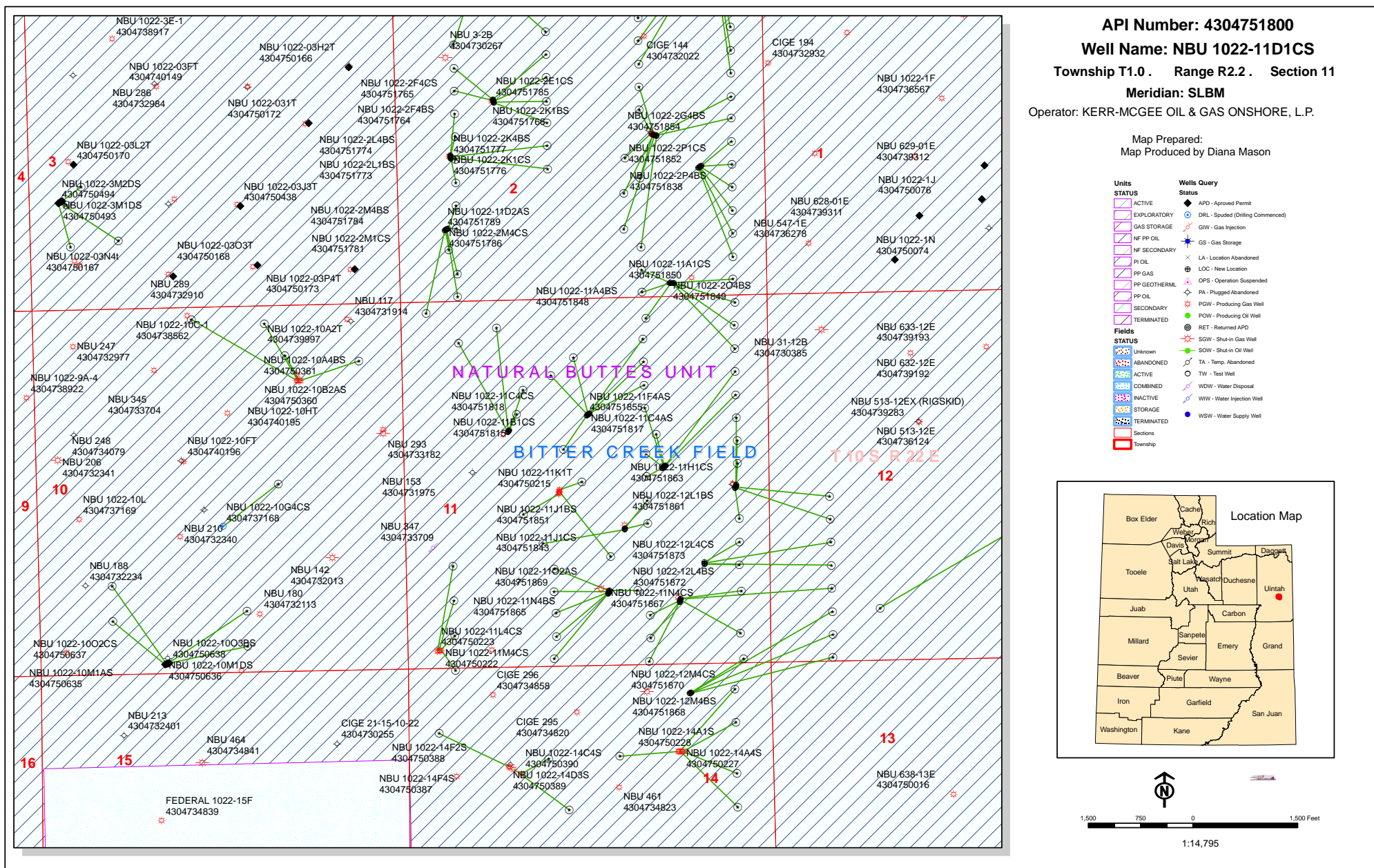
Michael L. Coulthard

Digitally signed by Michael L. Coulthard
 DN: cn=Michael L. Coulthard, o=Bureau of Land Management,
 ou=Branch of Minerals, email=Michael_Coulthard@blm.gov, c=US
 Date: 2011.08.19 08:43:17 -06'00'

bcc: File - Natural Buttes Unit
 Division of Oil Gas and Mining
 Central Files
 Agr. Sec. Chron
 Fluid Chron

MCoulthard:mc:8-19-11

RECEIVED: August 22, 2011



From: Jim Davis
To: Hill, Brad; Mason, Diana
CC: Bonner, Ed; Garrison, LaVonne; Lytle, Andy
Date: 9/26/2011 5:08 PM
Subject: Anadarko APD approvals 10S 22E Sec 2, 11 and 14
Attachments: Anadarko Approvals from SITLA 9.26.11.xls

The following APDs have been approved by SITLA including arch clearance and paleo clearance:

4304751840 NBU 1022-11P4CS
4304751860 NBU 1022-12M1CS
4304751868 NBU 1022-12M4BS
4304751870 NBU 1022-12M4CS
4304751803 NBU 1022-2G1CS
4304751807 NBU 1022-2G1BS
4304751808 NBU 1022-2H1BS
4304751812 NBU 1022-2H1CS
4304751825 NBU 1022-2H4BS
4304751811 NBU 1022-2B1CS
4304751827 NBU 1022-2B4CS
4304751828 NBU 1022-2B4BS
4304751830 NBU 1022-2C1BS
4304751809 NBU 1022-2I4CS
4304751810 NBU 1022-2P1BS
4304751824 NBU 1022-2I1CS
4304751829 NBU 1022-2I4BS
4304751838 NBU 1022-2P4BS
4304751852 NBU 1022-2P1CS
4304751839 NBU 1022-2P4CS
4304751841 NBU 1022-11B1BS
4304751842 NBU 1022-11A1BS
4304751846 NBU 1022-2O4CS
4304751848 NBU 1022-11A4BS
4304751849 NBU 1022-2O4BS
4304751850 NBU 1022-11A1CS

These APDS are approved including arch clearance but will require **spot paleo monitoring** as recommended in the applicable paleo reports:

4304751758 NBU 1022-2C1CS
4304751767 NBU 1022-2C4BS
4304751768 NBU 1022-2C4CS
4304751779 NBU 1022-2D1BS
4304751780 NBU 1022-2D4BS
4304751782 NBU 1022-2E1BS
4304751783 NBU 1022-2F1BS
4304751760 NBU 1022-2E4BS
4304751761 NBU 1022-2F1CS
4304751764 NBU 1022-2F4BS
4304751765 NBU 1022-2F4CS
4304751766 NBU 1022-2K1BS
4304751785 NBU 1022-2E1CS
4304751775 NBU 1022-2L4CS
4304751778 NBU 1022-2M1BS
4304751781 NBU 1022-2M1CS
4304751784 NBU 1022-2M4BS
4304751786 NBU 1022-2M4CS
4304751789 NBU 1022-11D2AS

4304751802	NBU 1022-11B4CS
4304751813	NBU 1022-11B4BS
4304751815	NBU 1022-11B1CS
4304751817	NBU 1022-11C4AS
4304751818	NBU 1022-11C4CS
4304751855	NBU 1022-11F4AS
4304751805	NBU 1022-11A4CS
4304751814	NBU 1022-11H1BS
4304751822	NBU 1022-11G4CS
4304751823	NBU 1022-11G1BS
4304751837	NBU 1022-11G1CS
4304751853	NBU 1022-11G4BS
4304751834	NBU 1022-11I1CS
4304751835	NBU 1022-12L1CS
4304751857	NBU 1022-11H4BS
4304751858	NBU 1022-11H4CS
4304751861	NBU 1022-12L1BS
4304751863	NBU 1022-11H1CS
4304751866	NBU 1022-11I4BS
4304751871	NBU 1022-11I4CS
4304751872	NBU 1022-12L4BS
4304751873	NBU 1022-12L4CS
4304751816	NBU 1022-11K4BS
4304751843	NBU 1022-11J1CS
4304751851	NBU 1022-11J1BS
4304751859	NBU 1022-11K4CS
4304751862	NBU 1022-11N1BS
4304751864	NBU 1022-11N1CS
4304751865	NBU 1022-11N4BS
4304751867	NBU 1022-11N4CS
4304751869	NBU 1022-11O2AS

These APDS are approved including arch clearance but will require **full paleo monitoring** as recommended in the applicable paleo reports:

4304751771	NBU 1022-2E4CS
4304751772	NBU 1022-2L1CS
4304751773	NBU 1022-2L1BS
4304751774	NBU 1022-2L4BS
4304751776	NBU 1022-2K1CS
4304751777	NBU 1022-2K4BS
4304751819	NBU 1022-2G4CS
4304751820	NBU 1022-2H4CS
4304751844	NBU 1022-2J4BS
4304751845	NBU 1022-2O1CS
4304751847	NBU 1022-2I1BS
4304751854	NBU 1022-2G4BS
4304751797	NBU 1022-11C2CS
4304751799	NBU 1022-11C3DS
4304751800	NBU 1022-11D1CS
4304751801	NBU 1022-11F2DS
4304751821	NBU 1022-11O1CS
4304751831	NBU 1022-11O4CS
4304751832	NBU 1022-11P1BS
4304751833	NBU 1022-11P4BS
4304751836	NBU 1022-12M1BS
4304751856	NBU 1022-11O4BS

That's a big enough list that I'm including a simple spreadsheet that has this same information, but organized in such a way as may be more useful to some of you.

Thanks.

-Jim

Jim Davis
Utah Trust Lands Administration
jimdavis1@utah.gov
Phone: (801) 538-5156

Well Name	KERR-MCGEE OIL & GAS ONSHORE, L.P. NBU 1022-11D1C			
String	Surf	Prod		
Casing Size(in)	8.625	4.500		
Setting Depth (TVD)	2079	8589		
Previous Shoe Setting Depth (TVD)	40	2079		
Max Mud Weight (ppg)	8.3	12.5		
BOPE Proposed (psi)	500	5000		
Casing Internal Yield (psi)	3390	7780		
Operators Max Anticipated Pressure (psi)	5484	12.3		

Calculations	Surf String	8.625	"	
Max BHP (psi)	.052*Setting Depth*MW=	897		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	648	NO	air drill
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	440	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	448	NO	Reasonable depth in area
Required Casing/BOPE Test Pressure=		2079	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		40	psi *Assumes 1psi/ft frac gradient	

Calculations	Prod String	4.500	"	
Max BHP (psi)	.052*Setting Depth*MW=	5583		
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	4552	YES	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	3693	YES	OK
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	4151	NO	Reasonable
Required Casing/BOPE Test Pressure=		5000	psi	
*Max Pressure Allowed @ Previous Casing Shoe=		2079	psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient	

Calculations	String		"	
Max BHP (psi)	.052*Setting Depth*MW=			
			BOPE Adequate For Drilling And Setting Casing at Depth?	
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO	
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO	
			*Can Full Expected Pressure Be Held At Previous Shoe?	
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO	
Required Casing/BOPE Test Pressure=			psi	

API Well Number: 43047518000000

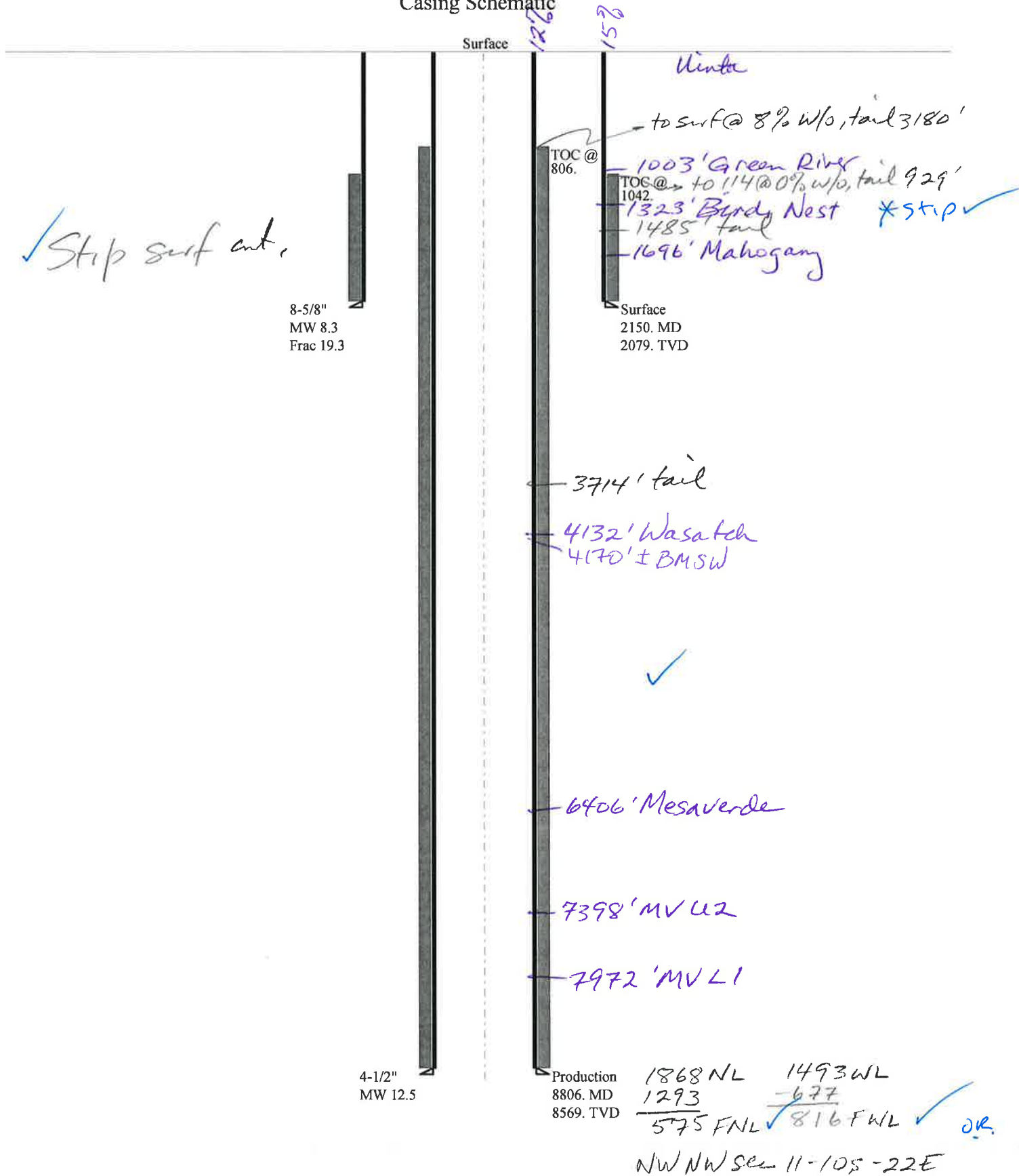
*Max Pressure Allowed @ Previous Casing Shoe=

psi *Assumes 1psi/ft frac gradient

RECEIVED: October 25, 2011

43047518000000 NBU 1022-11D1CS

Casing Schematic



Well name:	43047518000000 NBU 1022-11D1CS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Surface	Project ID:	43-047-51800
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

Mud weight: 8.330 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 103 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 1,042 ft

Burst

Max anticipated surface pressure: 1,892 psi
Internal gradient: 0.120 psi/ft
Calculated BHP 2,141 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.70 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.50 (B)

Tension is based on air weight.

Neutral point: 1,878 ft

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 463 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 20 °

Re subsequent strings:

Next setting depth: 8,569 ft
Next mud weight: 12.500 ppg
Next setting BHP: 5,564 psi
Fracture mud wt: 19.250 ppg
Fracture depth: 2,150 ft
Injection pressure: 2,150 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2150	8.625	28.00	I-55	LT&C	2079	2150	7.892	85140
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	899	1880	2.090	2141	3390	1.58	58.2	348	5.98 J

Prepared Helen Sadik-Macdonald
by: Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: August 25, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 2079 ft, a mud weight of 8.33 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

Well name:	43047518000000 NBU 1022-11D1CS		
Operator:	KERR-MCGEE OIL & GAS ONSHORE, L.P.		
String type:	Production	Project ID:	43-047-51800
Location:	UINTAH	COUNTY	

Design parameters:**Collapse**

Mud weight: 12.500 ppg
Design is based on evacuated pipe.

Minimum design factors:**Collapse:**

Design factor 1.125

Burst:

Design factor 1.00

Environment:

H2S considered? No
Surface temperature: 74 °F
Bottom hole temperature: 194 °F
Temperature gradient: 1.40 °F/100ft
Minimum section length: 100 ft

Cement top: 806 ft

Burst

Max anticipated surface pressure: 3,679 psi
Internal gradient: 0.220 psi/ft
Calculated BHP 5,564 psi

No backup mud specified.

Tension:

8 Round STC: 1.80 (J)
8 Round LTC: 1.80 (J)
Buttress: 1.60 (J)
Premium: 1.50 (J)
Body yield: 1.60 (B)

Directional Info - Build & Drop

Kick-off point 300 ft
Departure at shoe: 1460 ft
Maximum dogleg: 2 °/100ft
Inclination at shoe: 0 °

Tension is based on air weight.

Neutral point: 7,205 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	8806	4.5	11.60	I-80	LT&C	8569	8806	3.875	116239
Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	5564	6360	1.143	5564	7780	1.40	99.4	212	2.13 J

Prepared Helen Sadik-Macdonald
by: Div of Oil, Gas & Mining

Phone: 801 538-5357
FAX: 801-359-3940

Date: August 25, 2011
Salt Lake City, Utah

Remarks:

Collapse is based on a vertical depth of 8569 ft, a mud weight of 12.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

Collapse strength is (biaxially) derated for doglegs in directional wells by multiplying the tensile stress by the cross section area to calculate a

Engineering responsibility for use of this design will be that of the purchaser.

ON-SITE PREDRILL EVALUATION

Utah Division of Oil, Gas and Mining

Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
Well Name	NBU 1022-11D1CS				
API Number	43047518000000	APD No	4333	Field/Unit	NATURAL BUTTES
Location: 1/4,1/4	SENW	Sec	11	Tw	10.0S
		Rng	22.0E	1868	FNL 1493 FWL
GPS Coord (UTM)	635742	4424947	Surface Owner		

Participants

Andy Lytle, Sheila Wopsock, Charles Chase, Grizz Oleen, Mark Kuehn, Doyle Holmes, (Kerr McGee). John Slaugh, Mitch Batty, (Timberline). Jim Davis (SITLA). David Hackford, (DOGM).

Regional/Local Setting & Topography

The general area is in the southeast portion of the Natural Buttes Unit on the northeast end of a major drainage divide called Archy Bench.. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 41 air miles to the northwest. Access from Vernal is approximately 60.4 road miles following Utah State, Uintah County and oilfield development roads. Three wells, in addition to this one will be directionally drilled from this pad. (For a total of four new wells). There is one existing well on this pad. (The NBU 1022-11F). At this time, the decision rather to PA or TA this well has not been made. This proposed location takes in an existing location, and very little new construction will be necessary except for digging the reserve pit. The existing access road will be adequate and will be used. The location runs in a north-south direction along the top of a flat topped ridge. This ridge breaks off sharply into rugged secondary canyons especially on the north and east sides. New construction will consist of approx. 50 feet on all sides of the existing pad, and an additional 50 feet on the north side for reserve pit and excess cut stockpile. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and should be a suitable location for five wells, and is on the best site available in the immediate area.

Surface Use Plan

Current Surface Use

Wildlife Habitat
Existing Well Pad

New Road Miles	Well Pad	Src Const Material	Surface Formation
0	Width 260 Length 425	Onsite	UNTA

Ancillary Facilities N

Waste Management Plan Adequate? Y

Environmental Parameters

Affected Floodplains and/or Wetlands N

Flora / Fauna

Prickly pear, wild onion, shadscale, mat saltbrush, Indian ricegrass, halogeton, pepper grass, annuals and curly Vegetation is a salt desert shrub type. Principal species present are cheatgrass, black sagebrush, stipa, mesquite grass.

Sheep, antelope, raptors and small mammals and birds.

Soil Type and Characteristics

Shallow rocky sandy loam.

Erosion Issues N

Sedimentation Issues N

Site Stability Issues N

Drainage Diversion Required? N

Berm Required? N

Erosion Sedimentation Control Required? N

Paleo Survey Run? Y **Paleo Potential Observed?** N **Cultural Survey Run?** Y **Cultural Resources?** N

Reserve Pit

Site-Specific Factors

Site Ranking

Distance to Groundwater (feet)	100 to 200	5
Distance to Surface Water (feet)	>1000	0
Dist. Nearest Municipal Well (ft)	>5280	0
Distance to Other Wells (feet)		20
Native Soil Type	High permeability	20
Fluid Type	Fresh Water	5
Drill Cuttings	Normal Rock	0
Annual Precipitation (inches)		0
Affected Populations		
Presence Nearby Utility Conduits	Not Present	0
Final Score		50

1 Sensitivity Level

Characteristics / Requirements

The reserve pit is planned in an area of cut on the west side of the location. Dimensions are 100' x 195' x 12' deep with 2' of freeboard. Kerr McGee agreed to line the pit with a 30-mil liner and 2 layers of felt.

In addition to the reserve pit, an emergency pit will be constructed approx. 200' below the reserve pit to the north. This pit will be approx. 50' in diameter. Because of the extremely rocky nature of the proposed reserve pit area, this pit could contain a possible leak. After the wells are drilled and the reserve pit reclaimed, the decision will be made to reclaim this pit or leave it open for a wildlife/stock pond. SITLA, DOGM and Kerr McGee personnel agreed to this.

Closed Loop Mud Required? N **Liner Required?** Y **Liner Thickness** 30 **Pit Underlayment Required?** Y

Other Observations / Comments

In addition to the reserve pit, an emergency pit will be constructed approx. 200' below the reserve pit to the north. This pit will be approx. 50' in diameter. Because of the extremely rocky nature of the proposed reserve pit area, this pit could contain a possible leak. After the wells are drilled and the reserve pit reclaimed, the decision will be made to reclaim this pit or leave it open for a wildlife/stock pond. SITLA, DOGM and Kerr McGee personnel agreed to this.

David Hackford
Evaluator

8/18/2011
Date / Time

Application for Permit to Drill

Statement of Basis

10/25/2011

Utah Division of Oil, Gas and Mining

Page 1

APD No	API WellNo	Status	Well Type	Surf Owner	CBM
4333	43047518000000	SITLA	GW	S	No
Operator	KERR-MCGEE OIL & GAS ONSHORE, L.P.		Surface Owner-APD		
Well Name	NBU 1022-11D1CS		Unit	NATURAL BUTTES	
Field	NATURAL BUTTES		Type of Work	DRILL	
Location	SENW 11 10S 22E S 1868 FNL 1493 FWL GPS Coord (UTM) 635683E 4425139N				

Geologic Statement of Basis

Kerr McGee proposes to set 2,150' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,170'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 11. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill
APD Evaluator

9/21/2011
Date / Time

Surface Statement of Basis

The general area is in the southeast portion of the Natural Buttes Unit on the northeast end of a major drainage divide called Archy Bench. Within this area is the White River and rugged drainages that drain into it. Topography is varied and frequently dissected by short draws or washes, which become overly steep as they approach the White River breaks or rim. Distance to the White River varies from ¼ mile to 2 miles. The side drainages are dry except for ephemeral flows. No seeps or springs exist in the area. An occasional pond has been constructed to supply water for livestock and antelope. Vernal, Utah is approximately 41 air miles to the northwest. Access from Vernal is approximately 60.4 road miles following Utah State, Uintah County and oilfield development roads. The existing access road will be adequate and will be used.

Four wells will be directionally drilled from this location. They are the NBU 1022-11D1CS, NBU 1022-11C2CS, NBU 1022-11C3DS, and the NBU 1022-11F2DS. The existing location has one existing well. This well is the NBU 1022-11F, and at this time the decision rather to PA or TA this well has not been made. The location is on a flat topped ridge that runs in a north-south direction. This ridge breaks off sharply into rugged secondary canyons especially on the north and east sides. No drainage concerns exist, and no diversions will be needed. The pad as modified should be stable and sufficient for five wells, and is the best site for a location in the immediate area.

Excess material will be stockpiled on the north side of the new reserve pit. Approx. 50' of additional construction will be necessary on all sides of the original location.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA and Ben Williams with DWR were invited by email to the pre-site evaluation. Jim Davis was present. Kerr McGee was told to consult with SITLA for reclamation standards including seeding mixes to be used.

David Hackford
Onsite Evaluator

8/18/2011
Date / Time

Conditions of Approval / Application for Permit to Drill

RECEIVED: October 25, 2011

Application for Permit to Drill Statement of Basis

10/25/2011

Utah Division of Oil, Gas and Mining

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Category	Condition
Pits	A synthetic liner with a minimum thickness of 30 mils with a felt subliner shall be properly installed and maintained in the reserve pit.
Pits	The reserve pit should be located on the west side of the location.

WORKSHEET APPLICATION FOR PERMIT TO DRILL

APD RECEIVED: 8/10/2011**API NO. ASSIGNED:** 43047518000000**WELL NAME:** NBU 1022-11D1CS**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)**PHONE NUMBER:** 720 929-6100**CONTACT:** Andy Lytle**PROPOSED LOCATION:** SENW 11 100S 220E**Permit Tech Review:** ☒**SURFACE:** 1868 FNL 1493 FWL**Engineering Review:** ☒**BOTTOM:** 0576 FNL 0818 FWL**Geology Review:** ☒**COUNTY:** UINTAH**LATITUDE:** 39.96556**LONGITUDE:** -109.41061**UTM SURF EASTINGS:** 635683.00**NORTHINGS:** 4425139.00**FIELD NAME:** NATURAL BUTTES**LEASE TYPE:** 3 - State**LEASE NUMBER:** UO1197A-ST**PROPOSED PRODUCING FORMATION(S):** WASATCH-MESA VERDE**SURFACE OWNER:** 3 - State**COALBED METHANE:** NO**RECEIVED AND/OR REVIEWED:**☒ **PLAT**☒ **Bond:** STATE/FEE - 22013542☐ **Potash**☒ **Oil Shale 190-5**☐ **Oil Shale 190-3**☐ **Oil Shale 190-13**☒ **Water Permit:** 43-8496☐ **RDCC Review:**☐ **Fee Surface Agreement**☒ **Intent to Commingle****Commingle Approved****LOCATION AND SITING:**☐ **R649-2-3.****Unit:** NATURAL BUTTES☐ **R649-3-2. General**☐ **R649-3-3. Exception**☒ **Drilling Unit****Board Cause No:** Cause 173-14**Effective Date:** 12/2/1999**Siting:** 460' Fr U Bdry & Uncommitted Tracts☒ **R649-3-11. Directional Drill****Comments:** Presite Completed

Stipulations: 3 - Commingle - ddoucet
5 - Statement of Basis - bhill
15 - Directional - dmason
17 - Oil Shale 190-5(b) - dmason
25 - Surface Casing - hmadonald

RECEIVED: October 25, 2011



GARY R. HERBERT
Governor

GREGORY S. BELL
Lieutenant Governor

State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER
Executive Director

Division of Oil, Gas and Mining

JOHN R. BAZA
Division Director

Permit To Drill

Well Name: NBU 1022-11D1CS

API Well Number: 43047518000000

Lease Number: UO1197A-ST

Surface Owner: STATE

Approval Date: 10/25/2011

Issued to:

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

Authority:

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-MESA VERDE Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

Duration:

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

Commingling:

In accordance with Board Cause No. 173-14, commingling of the production from the Wasatch formation and the Mesaverde formation in this well is allowed.

General:

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

Conditions of Approval:

In accordance with Utah Admin. R.649-3-11, Directional Drilling, the operator shall submit a complete angular deviation and directional survey report to the Division within 30 days following completion of the well.

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

Additional Approvals:

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

Notification Requirements:

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels
OR
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <http://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

Contact Information:

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office
801-231-8956 - after office hours

Reporting Requirements:

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

Approved By:



For John Rogers
Associate Director, Oil & Gas

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-11D1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1868 FNL 1493 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 11 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047518000000
PHONE NUMBER: 720 929-6515 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 12/15/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input checked="" type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

The operator requests approval for changes in the drilling plan. Specifically, the Operator requests approval for a FIT waiver, closed loop drilling option, and a production casing change. All other aspects of the previously approved drilling plan will not change. These proposals do not deviate from previously submitted and approved plans. Please see attachments. Thank you.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 12/20/2011
By: *Derek Duff*

NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 12/15/2011	

Kerr-McGee Oil & Gas Onshore. L.P.**NBU 1022-11D1CS**

Surface: 1868 FNL / 1493 FWL SENW
 BHL: 576 FNL / 818 FWL NWNW

Section 11 T10S R22E

Uintah County, Utah
 Mineral Lease: UO1197A-ST

ONSHORE ORDER NO. 1**DRILLING PROGRAM**

1. & 2. **Estimated Tops of Important Geologic Markers:**
Estimated Depths of Anticipated Water, Oil, Gas, or Mineral Formations:

<u>Formation</u>	<u>Depth</u>	<u>Resource</u>
Uinta	0 - Surface	
Green River	1,003'	
Birds Nest	1,323'	Water
Mahogany	1,696'	Water
Wasatch	4,132'	Gas
Mesaverde	6,406'	Gas
MVU2	7,398'	Gas
MVL1	7,972'	Gas
TVD	8,569'	
TD	8,806'	

3. **Pressure Control Equipment** (Schematic Attached)

Please refer to the attached Drilling Program

4. **Proposed Casing & Cementing Program:**

Please refer to the attached Drilling Program

5. **Drilling Fluids Program:**

Please refer to the attached Drilling Program

6. **Evaluation Program:**

Please refer to the attached Drilling Program

7. Abnormal Conditions:

Maximum anticipated bottom hole pressure calculated at 8569' TVD, approximately equals
5,484 psi 0.64 psi/ft = actual bottomhole gradient

Maximum Anticipated Bottom Hole Pressure (MABHP) = Pore Pressure at TD

Maximum anticipated surface pressure equals approximately 3,587 psi (bottom hole pressure
minus the pressure of a partially evacuated hole calculated at 0.22 psi/foot, per Onshore Order No. 2).

Per Onshore Order No. 2 - Max Anticipated Surf. Press. (MASP) = (Pore Pressure at next csg point -
(0.22 psi/ft-partial evac gradient x TVD of next csg point))

8. Anticipated Starting Dates:

Drilling is planned to commence immediately upon approval of this application.

9. Variances:

Please refer to the attached Drilling Program.
Onshore Order #2 – Air Drilling Variance

Kerr-McGee Oil & Gas Onshore LP (KMG) respectfully requests a variance to several requirements associated with air drilling outlined in Onshore Order 2

- Blowout Prevention Equipment (BOPE) requirements;
- Mud program requirements; and
- Special drilling operation (surface equipment placement) requirements associated with air drilling.

This Standard Operating Practices addendum provides supporting information as to why KMG current air drilling practices for constructing the surface casing hole should be granted a variance to Onshore Order 2 air drilling requirements.

The reader should note that the air rig is used only to construct a stable surface casing hole through a historically difficult lost circulation zone. A conventional rotary rig follows the air rig, and is used to drill and construct the majority of the wellbore.

More notable, KMG has used the air rig layout and procedures outlined below to drill the surface casing hole in approximately 675 wells without incident of blow out or loss of life.

Background

In a typical well, KMG utilizes an air rig for drilling the surface casing hole, an interval from the surface to surface casing depths, which varies in depth from 1,700 to 2,800 feet. The air rig drilling operation does not drill through productive or over pressured formations in KMG field, but does penetrate the Uinta and Green River Formations. The purpose of the air drilling operation is to overcome the severe loss circulation zone in the Green River known as the Bird's Nest while creating a stable hole for the surface casing. The surface casing hole is generally drilled to approximately 500 feet below the Bird's Nest.

Before the surface air rig is mobilized, a rathole rig is utilized to set and cement conductor pipe through a competent surface formation. Generally, the conductor is set at 40 feet. In some cases, conductor may be set deeper in areas that the surface formation is not found competent. This rig also drills the rat and mouse holes in preparation for the surface casing and production string drilling operations.

The air rig is then mobilized to drill the surface casing hole by drilling a 12 1/4 inch hole for the first 200 feet, then will drill a 11 inch hole to just above the Bird's Nest interval with an air hammer. The hammer is then tripped and replaced with a 11 inch tri-cone bit. The tri-cone bit is used to drill to the surface casing point, approximately 500 feet below the loss circulation zone (Bird's Nest). The 8-5/8 inch surface casing is then run and cemented in place, thereby isolating the lost circulation zone.

KMG fully appreciates Onshore Order 2 well control and safety requirements associated with a typical air drilling operations. However, the requirements of Onshore Order 2 are excessive with respect to the air rig layout and drilling operation procedures that are currently in practice to drill and control the surface casing hole in KMG Fields.

Variance for BOPE Requirements

The air rig operation utilizes a properly lubricated and maintained air bowl diverter system which diverts the drilling returns to a six-inch blooie line. The air bowl is the only piece of BOPE equipment which is installed during drilling operations and is sufficient to contain the air returns associated with this drilling operation. As was discussed earlier, the drilling of the surface hole does not encounter any over pressured or productive zones, and as a result standard BOPE equipment should not be required. In addition, standard drilling practices do not support the use of BOPE on 40 feet of conductor pipe.

Variance for Mud Material Requirements

Onshore Order 2 also states that sufficient quantities of mud materials shall be maintained or readily accessible for the purpose of assuring adequate well control. Once again, the surface hole drilling operations does not encounter over pressured or productive intervals, and as a result there is not a need to control pressure in the surface hole with a mud system. Instead of mud, the air rigs utilize water from the reserve pit for well control, if necessary. A skid pump which is located near the reserve pit (see attachment) will supply the water to the well bore.

Variance for Special Drilling Operation (surface equipment placement) Requirements

Onshore Order 2 requires specific safety distances or setbacks for the placement of associated standard air drilling equipment, wellbore, and reserve pits. The air rigs used to drill the surface holes are not typical of an air rig used to drill a producing hole in other parts of the US. These are smaller in nature and designed to fit a KMG location. The typical air rig layout for drilling surface hole in the field is attached.

Typically the blooie line discharge point is required to be 100 feet from the well bore. In the case of a KMG well, the reserve pit is only 45 feet from the rig and is used for the drill cuttings. The blooie line, which transports the drill cuttings from the well to the reserve pit, subsequently discharges only 45 feet from the well bore.

Typically the air rig compressors are required to be located in the opposite direction from the blooie line and a minimum of 100 feet from the well bore. At the KMG locations, the air rig compressors are approximately 40 feet from the well bore and approximately 60 feet from the blooie line discharge due to the unique air rig design. The air compressors (see attachment) are located on the rig (1250 cfm) and

on a standby trailer (1170 cfm). A booster sits between the two compressors and boosts the output from 350 psi to 2000 psi. The design does put the booster and standby compressor opposite from the blooie line.

Lastly, Onshore Order 2 addresses the need for an automatic igniter or continuous pilot light on the blooie line. The air rig does not utilize an igniter as the surface hole drilling operation does not encounter productive formations.

Variance for FIT Requirements

KMG also respectfully requests a variance to Onshore Order 2, Section III, Part Bi, for the pressure integrity test (PIT, also known as a formation integrity test (FIT)). This well is not an exploratory well and is being drilled in an area where the formation integrity is well known. Additionally, when an FIT is run with the mud weight as required, the casing shoe frequently breaks down and causes subsequent lost circulation when drilling the entire depth of the well.

Conclusion

The air rig operating procedures and the attached air rig layout have effectively maintained well control while drilling the surface holes in KMG Fields. KMG respectfully requests a variance from Onshore Order 2 with respect to air drilling well control requirements as discussed above.

10. Other Information:

Please refer to the attached Drilling Program.

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NBU 1022-11D1CS

Drilling Program
6 of 7

KERR-McGEE OIL & GAS ONSHORE LP

DRILLING PROGRAM

CASING PROGRAM

						DESIGN FACTORS		
						LTC		DQX
	SIZE	INTERVAL	WT.	GR.	CPLG.	BURST	COLLAPSE	TENSION
CONDUCTOR	14"	0-40'				3,390	1,880	348,000
SURFACE	8-5/8"	0 to 2,150	28.00	IJ-55	LTC	2.52	1.87	6.60
						7,780	6,350	223,000
PRODUCTION	4-1/2"	0 to 5,000	11.60	I-80	DQX	1.11	1.14	3.23
						1.11	1.14	6.24

Surface Casing:

(Burst Assumptions: TD = 12.5 ppg) 0.73 psi/ft = frac gradient @ surface shoe

Fracture at surface shoe with 0.1 psi/ft gas gradient above

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

Production casing:

(Burst Assumptions: Pressure test with 8.4ppg @ 7000 psi) 0.64 psi/ft = bottomhole gradient

(Collapse Assumption: Fully Evacuated Casing, Max MW) (Tension Assumptions: Air Weight of Casing*Buoys.Fact. of water)

CEMENT PROGRAM

		FT. OF FILL	DESCRIPTION	SACKS	EXCESS	WEIGHT		YIELD
SURFACE Option 1	LEAD	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	180	60%	15.80		1.15
	TOP OUT CMT (6 jobs)	1,200'	20 gals sodium silicate + Premium cmt + 2% CaCl + 0.25 pps flocele	270	0%	15.80		1.15
NOTE: If well will circulate water to surface, option 2 will be utilized								
SURFACE Option 2	LEAD	1,650'	65/35 Poz + 6% Gel + 10 pps gilsonite + 0.25 pps Flocele + 3% salt BWOW	150	35%	11.00		3.82
	TAIL	500'	Premium cmt + 2% CaCl + 0.25 pps flocele	150	35%	15.80		1.15
	TOP OUT CMT	as required	Premium cmt + 2% CaCl	as req.		15.80		1.15
PRODUCTION	LEAD	3,626'	Premium Lite II +0.25 pps celloflake + 5 pps gilsonite + 10% gel + 0.5% extender	270	20%	12.00		3.38
	TAIL	5,180'	50/50 Poz/G + 10% salt + 2% gel + 0.1% R-3	1,220	35%	14.30		1.31

*Substitute caliper hole volume plus 0% excess for LEAD if accurate caliper is obtained

*Substitute caliper hole volume plus 10% excess for TAIL if accurate caliper is obtained

FLOAT EQUIPMENT & CENTRALIZERS

SURFACE	Guide shoe, 1 jt, insert float. Centralize first 3 joints with bow spring centralizers. Thread lock guide shoe
PRODUCTION	Float shoe, 1 jt, float collar. 15 centralizers for a Mesaverde and 20 for a Blackhawk. 1 on first 3 joints and 1 every third from there up.

ADDITIONAL INFORMATION

Test casing head to 750 psi after installing. Test surface casing to 1,500 psi prior to drilling out.

BOPE: 11" 5M with one annular and 2 rams. The BOPE will be installed before the production hole is drilled and tested to 5,000 psi (annular to 2,500 psi) prior to drilling out the surface casing shoe. Record on chart recorder and tour sheet. Function test rams on each trip. Maintain safety valve and inside BOP on rig floor at all times. Most rigs have top drives; however, if used, the Kelly is to be equipped with upper and lower kelly valves.

Surveys will be taken at 1,000' minimum intervals.

Most rigs have PVT System for mud monitoring. If no PVT is available, visual monitoring will be utilized.

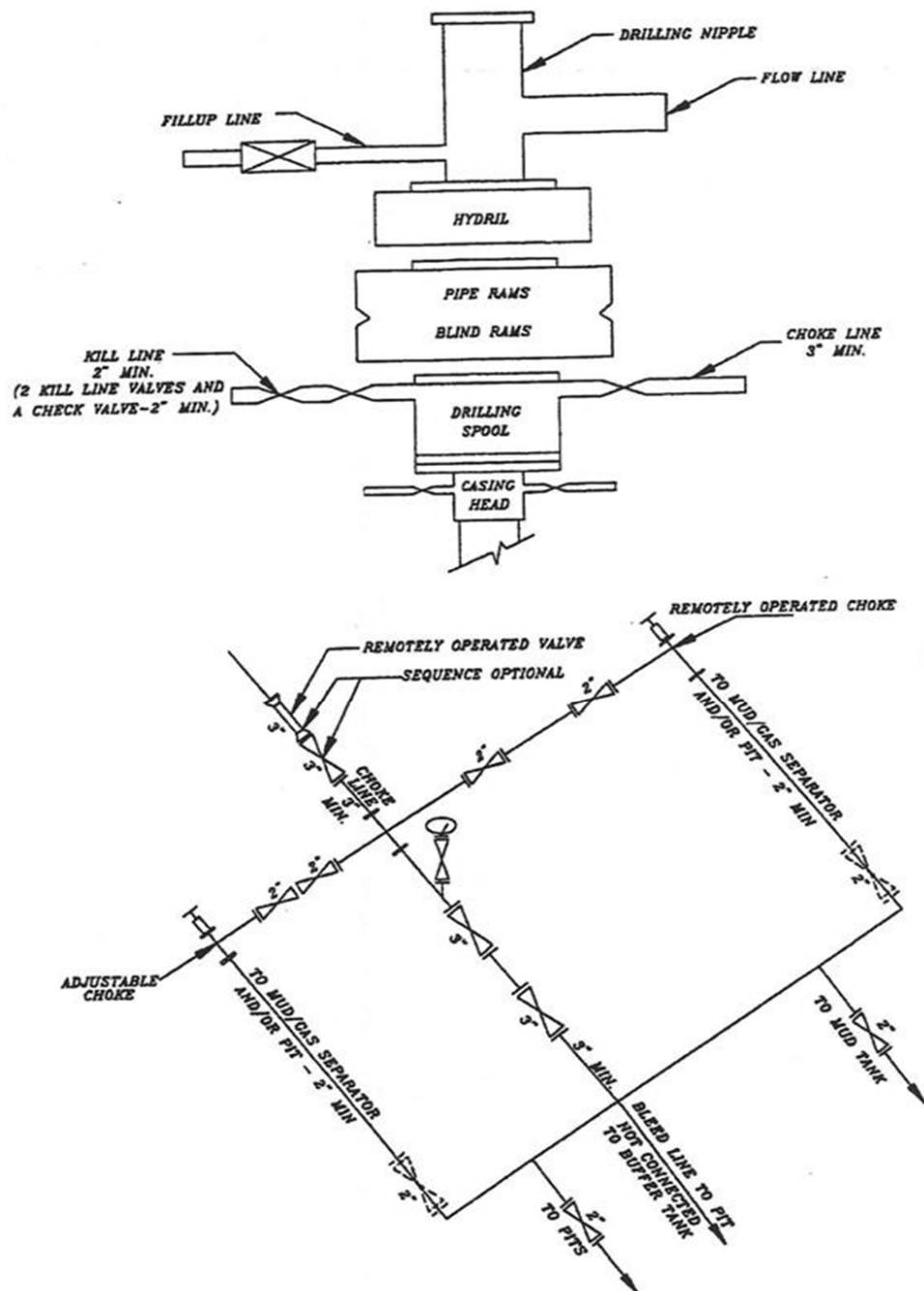
DRILLING ENGINEER:

Nick Spence / Danny Showers / Chad Loesel

DATE:**DRILLING SUPERINTENDENT:**

Kenny Gathings / Lovel Young

DATE:**RECEIVED** Dec. 15, 2011

EXHIBIT A
NBU 1022-11D1CS**SCHEMATIC DIAGRAM OF 5,000 PSI BOP STACK**

Requested Drilling Options:

Kerr-McGee will use either a closed loop drilling system that will require one pit and one cuttings storage area to be constructed on the drilling pad or a traditional drilling operation with one pit used for drilling and completion operations. The cuttings storage area will be used to contain only the de-watered drill cuttings and will be lined and bermed to prevent any liquid runoff. The drill cuttings will be buried in the completion pit once completion operations are completed according to traditional pit closure standards. The pit will be constructed to allow for completion operations. The completion operations pit will be lined with a synthetic material 20 mil or thicker and will be used for the completing of the wells on the pad or used as part of our Aandarko Completions Transportation System (ACTS). Using the closed loop drilling system will allow Kerr-McGee to decrease the amount of disturbance/footprint on location compared to a single large drilling/completions pit.

If Kerr-McGee does not use a closed loop drilling system, it will construct a traditional drilling/completions pit to contain drill cuttings and for use in completion operations. The pit will be lined with a synthetic material 20 mil or thicker. The drill cuttings will be buried in the pit using traditional pit closure standards.

BLM - Vernal Field Office - Notification Form

Operator KERR-McGEE OIL & GAS Rig Name/# BUCKET RIG
 Submitted By SHEILA WOPSOCK Phone Number 435.781.7024
 Well Name/Number NBU 1022-11D1CS
 Qtr/Qtr SE/NW Section 11 Township 10S Range 22E
 Lease Serial Number UO1197AST
 API Number 4304751800

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time 12/21/2011 0800 HRS AM ☒ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☒ Surface Casing
☐ Intermediate Casing
☐ Production Casing
☐ Liner
☐ Other

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DIV. OF OIL, GAS & MINING

Date/Time 01/03/2012 0800 HRS AM ☒ PM ☐

BOPE

- ☐ Initial BOPE test at surface casing point
☐ BOPE test at intermediate casing point
☐ 30 day BOPE test
☐ Other

Date/Time _____ AM ☐ PM ☐

Remarks ESTIMATED DATE AND TIME. PLEASE CONTACT
LOVEL YOUNG AT 435.781.7051 FOR MORE

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 6

ENTITY ACTION FORM

Operator: KERR McGEE OIL & GAS ONSHORE LP Operator Account Number: N 2995
Address: P.O. Box 173779
city DENVER
state CO zip 80217 Phone Number: (720) 929-6086

Well 1

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751800	NBU 1022-11D1CS		SE	NW	11	10S	22E UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	12/23/2011			12/29/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 12/23/2011 AT 10:00 HRS. <u>BHL = NWNW</u>							

Well 2

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751797	NBU 1022-11C2CS		SE	NW	11	10S	22E UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	12/23/2011			12/29/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 12/23/2011 AT 15:00 HRS. <u>BHL = NENW</u>							

Well 3

API Number	Well Name		QQ	Sec	Twp	Rng	County
4304751799	NBU 1022-11C3DS		SE	NW	11	10S	22E UINTAH
Action Code	Current Entity Number	New Entity Number	Spud Date			Entity Assignment Effective Date	
B	99999	2900	12/26/2011			12/29/11	
Comments: MIRU PETE MARTIN BUCKET RIG. <u>WSMVD</u> SPUD WELL LOCATION ON 12/26/2011 AT 12:00 HRS. <u>BHL = NENW</u>							

ACTION CODES:

- A - Establish new entity for new well (single well only)
- B - Add new well to existing entity (group or unit well)
- C - Re-assign well from one existing entity to another existing entity
- D - Re-assign well from one existing entity to a new entity
- E - Other (Explain in 'comments' section)

GINA BECKER

Name (Please Print)

Signature

REGULATORY ANALYST

Title

12/28/2011

Date

RECEIVED

DEC 29 2011

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-11D1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1868 FNL 1493 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 11 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047518000000
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 12/30/2011	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU AIR RIG ON DEC. 27, 2011. DRILLED SURFACE HOLE TO 2380'. RAN SURFACE CASING AND CEMENTED. WELL IS WAITING ON ROTARY RIG. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY 01/03/2012		
NAME (PLEASE PRINT) Jaime Scharnowske		PHONE NUMBER 720 929-6304
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 1/3/2012		

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-11D1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1868 FNL 1493 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 11 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047518000000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 1/21/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU ROTARY RIG. FINISHED DRILLING FROM 2380' TO 8820' ON JAN. 18, 2012. RAN 4-1/2" 11.6# I-80 PRODUCTION CASING. CEMENTED PRODUCTION CASING. RELEASED ENSIGN RIG 146 ON JAN. 21, 2012 @ 08:00 HRS. DETAILS OF CEMENT JOB WILL BE INCLUDED WITH THE WELL COMPLETION REPORT. WELL IS WAITING ON FINAL COMPLETION ACTIVITIES.		
NAME (PLEASE PRINT) Jaime Scharnowske		PHONE NUMBER 720 929-6304
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 1/23/2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY January 23, 2012

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
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PHONE NUMBER: 720 929-6515 Ext		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input checked="" type="checkbox"/> SPUD REPORT Date of Spud: 12/23/2011	<input type="checkbox"/> CASING REPAIR	
<input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE TUBING	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER	
	OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. MIRU PETE MARTIN BUCKET RIG. DRILLED 20" CONDUCTOR HOLE TO 40'. RAN 14" 36.7# SCHEDULE 10 CONDUCTOR PIPE. CMT W/ 28 SX READY MIX. SPUD WELL LOCATION ON DEC. 23, 2011 AT 10:00 HRS.		
NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 12/27/2011	

BLM - Vernal Field Office - Notification Form

Operator ANADARKO PETROLEUM Rig Name/# ENSIGN 146
Submitted By KENT MOORE Phone Number 435- 828-0987
Well Name/Number NBU 1022-11D1CS
Qtr/Qtr SE/NW Section 11 Township 10S Range 22E
Lease Serial Number UO1197A-ST
API Number 43047518000

Spud Notice – Spud is the initial spudding of the well, not drilling out below a casing string.

Date/Time _____ AM ☐ PM ☐

Casing – Please report time casing run starts, not cementing times.

- ☐ Surface Casing
- ☐ Intermediate Casing
- ☐ Production Casing
- ☐ Liner
- ☐ Other

Date/Time _____ AM ☐ PM ☐

BOPE

- ☒ Initial BOPE test at surface casing point
- ☐ BOPE test at intermediate casing point
- ☐ 30 day BOPE test
- ☐ Other

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JAN 14 2012

DIV. OF OIL, GAS & MINING

Date/Time 1/15/12 09:00 AM ☒ PM ☐

Remarks _____

State of Utah - Notification Form

Operator Anadarko Petroleum Rig Name/# Ensign 146
Submitted By SID ARMSTRONG Phone Number 435- 828-0987
Well Name/Number NBU 1022 - 11D1CS
Qtr/Qtr SE NW Section 11 Township 10 Range 22E
Lease Serial Number UO1197A-ST
API Number 43047518000000

Casing – Time casing run starts, not cementing times.

☒ Production Casing
☐ Other

Date/Time 1/19/2012 13:00 AM ☐ PM ☒

BOPE

☐ Initial BOPE test at surface casing point
☐ Other

Date/Time _____ AM ☐ PM ☐

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JAN 18 2012

DIV. OF OIL, GAS & MINING

Rig Move

Location To: _____

Date/Time _____ AM ☐ PM ☐

Remarks WILL BE SKIDDING TO NBU 1022 11C2CS & TESTING
B.O.P'S

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-11D1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1868 FNL 1493 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 11 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047518000000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:	<input type="checkbox"/> ACIDIZE	
<input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion:	<input type="checkbox"/> ALTER CASING	
<input type="checkbox"/> SPUD REPORT Date of Spud:	<input type="checkbox"/> CASING REPAIR	
<input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2012	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	
	<input type="checkbox"/> CHANGE WELL STATUS	
	<input type="checkbox"/> CHANGE WELL NAME	
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	
	<input type="checkbox"/> CONVERT WELL TYPE	
	<input type="checkbox"/> DEEPEN	
	<input type="checkbox"/> FRACTURE TREAT	
	<input type="checkbox"/> NEW CONSTRUCTION	
	<input type="checkbox"/> OPERATOR CHANGE	
	<input type="checkbox"/> PLUG AND ABANDON	
	<input type="checkbox"/> PLUG BACK	
	<input checked="" type="checkbox"/> PRODUCTION START OR RESUME	
	<input type="checkbox"/> RECLAMATION OF WELL SITE	
	<input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION	
	<input type="checkbox"/> REPERFORATE CURRENT FORMATION	
	<input type="checkbox"/> SIDETRACK TO REPAIR WELL	
	<input type="checkbox"/> TEMPORARY ABANDON	
	<input type="checkbox"/> TUBING REPAIR	
	<input type="checkbox"/> VENT OR FLARE	
	<input type="checkbox"/> WATER DISPOSAL	
	<input type="checkbox"/> WATER SHUTOFF	
	<input type="checkbox"/> SI TA STATUS EXTENSION	
	<input type="checkbox"/> WILDCAT WELL DETERMINATION	
	<input type="checkbox"/> OTHER: <input style="width: 100px;" type="text"/>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON MARCH 30, 2012 AT 2:15 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 02, 2012		
NAME (PLEASE PRINT) Jaime Scharnowske	PHONE NUMBER 720 929-6304	TITLE Regulatory Analyst
SIGNATURE N/A	DATE 4/2/2012	

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: UO1197A-ST
1. TYPE OF WELL Gas Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: KERR-MCGEE OIL & GAS ONSHORE, L.P.		7. UNIT or CA AGREEMENT NAME: NATURAL BUTTES
3. ADDRESS OF OPERATOR: P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		8. WELL NAME and NUMBER: NBU 1022-11D1CS
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1868 FNL 1493 FWL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SENW Section: 11 Township: 10.0S Range: 22.0E Meridian: S		9. API NUMBER: 43047518000000
PHONE NUMBER: 720 929-6514		9. FIELD and POOL or WILDCAT: NATURAL BUTTES
COUNTY: UINTAH		STATE: UTAH
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA		
TYPE OF SUBMISSION	TYPE OF ACTION	
<input type="checkbox"/> NOTICE OF INTENT Approximate date work will start: <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input checked="" type="checkbox"/> DRILLING REPORT Report Date: 3/30/2012	<div style="display: flex; flex-wrap: wrap;"> <div style="width: 33%;"> <input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input checked="" type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION </div> <div style="width: 33%;"> <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER </div> <div style="width: 33%;"> <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER: <input style="width: 100px;" type="text"/> </div> </div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. THE SUBJECT WELL WAS PLACED ON PRODUCTION ON MARCH 30, 2012 AT 2:15 P.M. THE CHRONOLOGICAL WELL HISTORY WILL BE SUBMITTED WITH THE WELL COMPLETION REPORT.		
NAME (PLEASE PRINT) Jaime Scharnowske		PHONE NUMBER 720 929-6304
SIGNATURE N/A		TITLE Regulatory Analyst
DATE 4/2/2012		Accepted by the Utah Division of Oil, Gas and Mining FOR RECORD ONLY April 02, 2012

RECEIVED

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

MAY 15 2012

AMENDED REPORT ☐
(highlight changes)

FORM 8

DIV. OF OIL, GAS & MINING

5. LEASE DESIGNATION AND SERIAL NUMBER:
UO1197A-ST

WELL COMPLETION OR RECOMPLETION REPORT AND LOG

1a. TYPE OF WELL:		OIL WELL <input type="checkbox"/>	GAS WELL <input checked="" type="checkbox"/>	DRY <input type="checkbox"/>	OTHER <input type="checkbox"/>	6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
b. TYPE OF WORK:		NEW WELL <input checked="" type="checkbox"/>	HORIZ. LATS. <input type="checkbox"/>	DEEP-EN <input type="checkbox"/>	RE-ENTRY <input type="checkbox"/>	DIFF. RESVR. <input type="checkbox"/>	OTHER <input type="checkbox"/>
2. NAME OF OPERATOR: KERR MCGEE OIL & GAS ONSHORE, L.P.						7. UNIT or CA AGREEMENT NAME UTU63047A	
3. ADDRESS OF OPERATOR: P.O. BOX 173779 CITY DENVER STATE CO ZIP 80217				PHONE NUMBER: 6029 (720) 929-6304		8. WELL NAME and NUMBER: NBU 1022-11D1CS	
4. LOCATION OF WELL (FOOTAGES) AT SURFACE: SENW 1868FNL 1493FWL S11,T10S,R22E AT TOP PRODUCING INTERVAL REPORTED BELOW: NWNW 562 FNL 807 FWL S11,T10S,R22E AT TOTAL DEPTH: NWNW 573 FNL 730 FWL S11,T10S,R22E						9. API NUMBER: 4304751800	
11. QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 11 10S 22E S						10. FIELD AND POOL, OR WILDCAT NATURAL BUTTES	
12. COUNTY UINTAH						13. STATE UTAH	
14. DATE SPUDDED: 12/23/2011		15. DATE T.D. REACHED: 1/18/2012		16. DATE COMPLETED: 3/30/2012		17. ELEVATIONS (DF, RKB, RT, GL): 5079 GL	
18. TOTAL DEPTH: MD 8,820 TVD 8,552		19. PLUG BACK T.D.: MD 8,765 TVD 8,497		20. IF MULTIPLE COMPLETIONS, HOW MANY? *		21. DEPTH BRIDGE MD PLUG SET: TVD	

22. TYPE ELECTRIC AND OTHER MECHANICAL LOGS RUN (Submit copy of each)

HDIL/ZDL/CNGR-CBL/GR/COLLARS

23.

WAS WELL CORED? NO ☒ YES ☐ (Submit analysis)
WAS DST RUN? NO ☒ YES ☐ (Submit report)
DIRECTIONAL SURVEY? NO ☐ YES ☒ (Submit copy)

24. CASING AND LINER RECORD (Report all strings set in well)

HOLE SIZE	SIZE/GRADE	WEIGHT (#/ft.)	TOP (MD)	BOTTOM (MD)	STAGE CEMENTER DEPTH	CEMENT TYPE & NO. OF SACKS	SLURRY VOLUME (BBL)	CEMENT TOP **	AMOUNT PULLED
20"	14" STL	36.7#	0	40		28			
11"	8 5/8" IJ-55	28#	0	2,359		490		0	
7 7/8"	4 1/2" I-80	11.6#	0	8,808		1,603		250	

25. TUBING RECORD

SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)
2 3/8"	8,097							

26. PRODUCING INTERVALS

FORMATION NAME	TOP (MD)	BOTTOM (MD)	TOP (TVD)	BOTTOM (TVD)	INTERVAL (Top/Bot - MD)	SIZE	NO. HOLES	PERFORATION STATUS
(A) WASATCH	5,566	5,736			5,566 5,736	0.36	24	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(B) MESAVERDE	6,846	8,601			6,846 8,601	0.36	168	Open <input checked="" type="checkbox"/> Squeezed <input type="checkbox"/>
(C)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>
(D)								Open <input type="checkbox"/> Squeezed <input type="checkbox"/>

27. PERFORATION RECORD

28. ACID, FRACTURE, TREATMENT, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL	AMOUNT AND TYPE OF MATERIAL
5566-8601	PUMP 8565 BBLs SLICK H2O & 189,993 LBS 30/50 OTTAWA SAND
	8 STAGES

29. ENCLOSED ATTACHMENTS:

☐ ELECTRICAL/MECHANICAL LOGS ☐ GEOLOGIC REPORT ☐ DST REPORT ☒ DIRECTIONAL SURVEY
☐ SUNDRY NOTICE FOR PLUGGING AND CEMENT VERIFICATION ☐ CORE ANALYSIS ☐ OTHER: _____

30. WELL STATUS:

PROD

31. INITIAL PRODUCTION

INTERVAL A (As shown in Item #26)

DATE FIRST PRODUCED: 3/30/2012		TEST DATE: 4/10/2012		HOURS TESTED: 24		TEST PRODUCTION RATES: →		OIL – BBL: 0		GAS – MCF: 3,229		WATER – BBL: 204		PROD. METHOD: FLOWING							
CHOKE SIZE: 20/64		TBG. PRESS. 1,711		CSG. PRESS. 2,052		API GRAVITY		BTU – GAS		GAS/OIL RATIO		24 HR PRODUCTION RATES: →		OIL – BBL: 0		GAS – MCF: 3,229		WATER – BBL: 204		INTERVAL STATUS: PROD	

INTERVAL B (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL C (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

INTERVAL D (As shown in Item #26)

DATE FIRST PRODUCED:		TEST DATE:		HOURS TESTED:		TEST PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	PROD. METHOD:
CHOKE SIZE:	TBG. PRESS.	CSG. PRESS.	API GRAVITY	BTU – GAS	GAS/OIL RATIO	24 HR PRODUCTION RATES: →	OIL – BBL:	GAS – MCF:	WATER – BBL:	INTERVAL STATUS:

32. DISPOSITION OF GAS (Sold, Used for Fuel, Vented, Etc.)

33. SUMMARY OF POROUS ZONES (Include Aquifers):

Show all important zones of porosity and contents thereof. Cored intervals and all drill-stem tests, including depth interval tested, cushion used, time tool open, flowing and shut-in pressures and recoveries.

34. FORMATION (Log) MARKERS:

Formation	Top (MD)	Bottom (MD)	Descriptions, Contents, etc.	Name	Top (Measured Depth)
				GREEN RIVER	1,003
				BIRD'S NEST	1,313
				MAHOGANY	1,723
				WASATCH	4,392
				MESAVERDE	6,679

35. ADDITIONAL REMARKS (Include plugging procedure)

The first 210' of the surface hole was drilled with a 12 1/4" bit. The remainder of surface hole was drilled with an 11" bit. Attached is the chronological well history, perforation report & final survey.

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records.

NAME (PLEASE PRINT) CARA MAHLERTITLE REGULATORY ANALYSTSIGNATURE DATE 5/8/2012

This report must be submitted within 30 days of

- completing or plugging a new well
- drilling horizontal laterals from an existing well bore
- recompleting to a different producing formation
- reentering a previously plugged and abandoned well
- significantly deepening an existing well bore below the previous bottom-hole depth
- drilling hydrocarbon exploratory holes, such as core samples and stratigraphic tests

* ITEM 20: Show the number of completions if production is measured separately from two or more formations.

** ITEM 24: Cement Top – Show how reported top(s) of cement were determined (circulated (CIR), calculated (CAL), cement bond log (CBL), temperature survey (TS)).

Send to: Utah Division of Oil, Gas and Mining
1594 West North Temple, Suite 1210
Box 145801
Salt Lake City, Utah 84114-5801

Phone: 801-538-5340

Fax: 801-359-3940

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: ENSIGN 146/146, PROPETRO 11/11

Event: DRILLING

Start Date: 11/22/2011

End Date: 1/21/2012

Active Datum: RKB @5.093.00usft (above Mean Sea Level)

UWI: SE/NW0/10/S/22/E/11/0/0/26/PM/N/1868/NW0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
12/27/2011	14:00 - 19:00	5.00	DRLSUR	01	E	P		RIG DOWN, READY TO MOVE TO NBU 1022 11D1CS
	19:00 - 0:00	5.00	DRLSUR	01	A	P		MOVE TO NBU1022 11D1CS
12/28/2011	0:00 - 15:30	15.50	DRLSUR	01	A	P		FINISH MOVE TO NBU 1022-11D1CS WELL 1/4
	15:30 - 16:30	1.00	DRLSUR	01	B	P		INSTALL DIVERTOR HEAD AND BOUY LINE. BUILD DITCH. SPOT IN RIG. SPOT IN CATWALK AND PIPE RACKS. RIG UP PIT PUMP. RIG UP PUMP. PRIME PUMP. INSPECT RIG. HELD PRE-SPUD SAFETY MEETING.
	16:30 - 17:00	0.50	DRLSUR	21	E	P		WAIT ON PIT TO BE FILLED TO A LEVEL TO SPUD
	17:30 - 19:00	1.50	DRLSUR	02	D	P		SPUD, DRILL 210', 12.25" SURFACE SECTION
	19:00 - 19:30	0.50	DRLSUR	06	A	P		POOH, LDDS 12.25", PU 11.00", DIR TOOLS TIH
	19:30 - 0:00	4.50	DRLSUR	02	D	P		DRILL F/210' T/640', WOB 15, ON/OFF BTM 1200/1050, UP/DOWN/ROT 50/43/48
12/29/2011	0:00 - 8:00	8.00	DRLSUR	02	D	P		DRILL F/640' T/1510', WOB 20, RPM 45, ON OFF BTM 1200/1100, UP DOWN ROT 80/55/65
	8:00 - 9:00	1.00	DRLSUR	21	E	Z		PICK UP OFF BOTTOM, REPAIR TEAR IN PIT LINER, VALVE GASKET
	9:00 - 22:00	13.00	DRLSUR	02	D	P		DRILL F/1510' T/2380', TD
	22:00 - 0:00	2.00	DRLSUR	05	C	P		CIRC PRIOR TO TRIP, CSG RUN
12/30/2011	0:00 - 3:00	3.00	DRLSUR	06	D	P		POOH, LDDS AND DIR TOOLS
	3:00 - 4:00	1.00	DRLSUR	12	A	P		MOVE PIPE RACKS AND CATWALK. PULL DIVERTER HEAD. RIG UP TO RUN CSG. AND MOVE CSG INTO POSITION TO P/U.
	4:00 - 10:00	6.00	DRLSUR	12	C	P		RUN 53 JTS 8 5/8, 28# CSNG. LAND CSNG @ 10:00, SHOE SET @ 2345', BAFFLE SET @ 2299'
	10:00 - 10:30	0.50	DRLSUR	12	B	P		RELEASE RIG AT 10:00
	10:30 - 15:30	5.00	DRLSUR	12	E	P		HOLD SAFETY MEETING, RUN 200' OF 1". RIG DOWN RIG MOVE OFF WELL, REBUILD DITCH. RIG UP CEMENT TRUCK, 2" HARD LINES,. CEMENT HEAD, LOAD PLUG.
								HOLD SAFETY MEETING. TEST LINES TO 2000 PSI. PUMP 300 BBLS OF 8.4# H2O AHEAD, FULL RETURNS PUMP 20 BBLS OF 8.4# GEL WATER AHEAD. PUMP PUMP 125 SX (61.4 BBLS) OF 15.8# 1.15 YIELD TAIL(2% CALC, 1/4# /SK OF FLOCELE).DROP PLUG ON FLY AND DISPLACE W 138 BBLS OF 8.4# H2O. LIFT PRESSURE WAS 320 PSI, BUMP PLUG AND HOLD 800 PSI FOR 5 MIN. FLOAT HELD
								TOP OUT DOWN 1" WITH (150 SKS) 30.7 BBLS. / TOP OUT DOWN BACK SIDE WITH (215 SKS) 46.1 BBLS. 15.8 LB. CEMENT TO SURFACE.
1/13/2012	13:00 - 18:00	5.00	RDMO	01	E	P		RIG DOWN & MOVE OUT RIG - (RW JONES ON LOCATION @ 07:30 13 TRUCKS, 2 FORKLIFTS - 100% RIGGED DOWN, 65% OFF LOCATION, 25% ON NEW LOCATION (RIG MOVE 32 MILES)
	18:00 - 0:00	6.00	RDMO	01	E	P		IDLE

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: ENSIGN 146/146, PROPETRO 11/11

Event: DRILLING

Start Date: 11/22/2011

End Date: 1/21/2012

Active Datum: RKB @5,093.00usft (above Mean Sea Level)

UWI: SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/14/2012	0:00 - 6:30	6.50	RDMO	01	E	P		IDLE
	6:30 - 15:30	9.00	MIRU	01	A	P		MOVE & SET IN RIG - 100% MOVED, 100% SET IN (JONES ON LOCATION @ 06:30 OFF LOCATION @ 15:30 - 9 TRUCKS 2 FORKLIFTS)
	15:30 - 0:00	8.50	MIRU	01	B	P		RIGGING UP (RAISED DERRICK @ 18:00 hrs) 65% RIGGED UP
1/15/2012	0:00 - 16:00	16.00	MIRU	01	B	P		RIGGING UP
	16:00 - 19:00	3.00	DRLPRO	14	A	P		N/UP BOPE
	19:00 - 23:00	4.00	DRLPRO	15	A	P		TEST BOPE, RAMS, CHOKE, CHOKE LINE, MANUAL VALVES, FLOOR VALVES, HCR & IBOP 250 LOW 5000 HIGH, ANNULAR 250 LOW 2500 HIGH, CASING 1500
1/16/2012	23:00 - 23:30	0.50	DRLPRO	14	B	P		SET WEARBUSHING
	23:30 - 0:00	0.50	DRLPRO	06	A	P		P/UP SMITH MDI616, HUNTING MM .21 RPG 1.83 deg.
	0:00 - 3:00	3.00	DRLPRO	06	A	P		RIH DIRECTIONAL BHA, SCRIBE & ORIENT, P/UP DRILL PIPE RIH TAG CEMENT @ 2225'
	3:00 - 3:30	0.50	DRLPRO	07	B	P		CENTER & LEVEL DERRICK - INSTALL ROTATING HEAD
	3:30 - 5:00	1.50	DRLPRO	02	F	P		DRILL CEMENT, FE & RATHOLE F/2225' TO 2390'
	5:00 - 14:00	9.00	DRLPRO	02	D	P		DRILL/SLIDE F/2390' TO 3488' (1098' @ 137fph) MW 8.4, VIS 28, WOB 20, RPM 45, MM RPM 115, TQ 6/8, SPM 112, GPM 550, PSI OFF/ON 1535/1925, PU 130, SO 101, ROT 110, SLIDE 2445 2455, 2490 2498, 2581 2599, 2626 2636, 2672 2680, 2717 2727, 2762 2770, 2853 2869, 2944 2956, 3125 3140, 3171 3179, 3216 3224, 3261 3269, 3307 3319, 3352 3360, 3397 3405, 3443 3453 (SLIDE 177'2 hrs 22% - ROT 921'7 hrs 78%)
	14:00 - 14:30	0.50	DRLPRO	07	A	P		RIG SER
1/17/2012	14:30 - 0:00	9.50	DRLPRO	02	D	P		DRILL/SLIDE F/3488' TO 4810' (1322' @ 139fph) MW 8.5, VIS 28, WOB 20, RPM 45, MM RPM 115, TQ 7/10, SPM 112, GPM 550, PSI OFF/ON 1925/2300, PU 188, SO 122, ROT 147, SLIDE 3533 3541, 3579 3589, 3624 3636, 3669 3683, 3715 3725, 3760 3778, 3806 3821, 3851 3866, 3896 3911, 3941 3959, 4032 4047, 4213 4228, 4304 4319, 4395 4407, 4576 4586, 4667 4677, 4758 4773 (SLIDE 227'2.5 hrs 26% - ROT 1095'7 hrs 74%)
	0:00 - 15:30	15.50	DRLPRO	02	D	P		DRILL/SLIDE F/4810' TO 6798' (1988' @ 128fph) MW 8.5, VIS 28, WOB 20, RPM 35/45, MM RPM 102/115, TQ 8/11, SPM 100/112, GPM 490/550, PSI OFF/ON 1650/2000, PU 200, SO 151, ROT 166, SLIDE 4848 4863, 4939 4951, 5030 5045, 6480 6495 (SLIDE 57'1.75 hrs 4% - ROT 1931'14.75 hrs 96%) (MUD UP SYSTEM @ 7450')
	15:30 - 16:00	0.50	DRLPRO	07	A	P		RIG SER
	16:00 - 0:00	8.00	DRLPRO	02	D	P		DRILL/SLIDE F/6798' TO 7580' (782' @ 97fph) MW 10.0, VIS 34, WOB 20, RPM 35, MM RPM 102, TQ 8/10, SPM 100, GPM 4910, PS9I OFF/ON 2120/2475, PU 228, SO 151, ROT 180, SLIDE 7206 7218, 7287 7402 (SLIDE 37'1 hr 12% - ROT 745'7 hrs 88%)

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED Spud Date: 12/28/2011
 Project: UTAH-UINTAH Site: NBU 1022-11F PAD Rig Name No: ENSIGN 146/146, PROPETRO 11/11
 Event: DRILLING Start Date: 11/22/2011 End Date: 1/21/2012
 Active Datum: RKB @5,093.00usft (above Mean Sea Level) UVI: SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
1/18/2012	0:00 - 12:30	12.50	DRLPRO	02	D	P		DRILL/SLIDE F/ 7580' TO 8565 (985' @ 78.8 fph) MW 11.0, VIS 38, WOB 20, RPM 35, MM RPM 102, TQ 8/10, SPM 100, GPM 491, PSI OFF/ON 2120/2475, SLIDE 10" @ 1% SER RIG
	12:30 - 13:00	0.50	DRLPRO	07	A	P		
	13:00 - 16:00	3.00	DRLPRO	02	D			DRILL/SLIDE F/ 8565 TO 8820 (255' @ 85.3 fph) MW 11.5, VIS 38, WOB 20, RPM 35, MM RPM 102, TQ 8/10, SPM 100, GPM 491, PSI OFF/ON 2120/2475, SLIDE 0" @ 0%
	16:00 - 18:00	2.00	DRLPRO	05	A	P		CIRC BTM UP & PUMP SWEEP AROUND
1/19/2012	18:00 - 0:00	6.00	DRLPRO	06	E	P		WIPER TRIP TO SHOE PUMPED OUT 25 STANDS - CONT T.O.H.
	0:00 - 4:30	4.50	DRLPRO	06	E	X		FINISH T.I.H ON WIPER TRIP (TIGHT SPOT @ 4723 - 6648)
	4:30 - 6:00	1.50	DRLPRO	05	A	X		CIRC BTM UP (10' FT FLARE)
	6:00 - 15:00	9.00	DRLPRO	06	B	X		T.O.H F/ LOGS (PUMPED OUT 36 STANDS)
1/20/2012	15:00 - 15:30	0.50	DRLPRO	14	B	X		PULL WEAR BUSHING
	15:30 - 18:00	2.50	DRLPRO	11	E	X		HELD SM & R/U BAKER WIRELINE & RUN TRIPLE COMBO & BRIDGE OUT @ 3870 - T.O.H W/ WIRELINE & STRIPED OFF BOW SPRING & ATEMPT ANOTHER RUN BRIDGE @ 3870 - R/D LOGGERS
	18:00 - 0:00	6.00	DRLPRO	06	E	X		P/U BIT MOTOR & T.I.H ON WIPER TRIP & WASH OUT SPOT @ 3870
	0:00 - 2:00	2.00	DRLPRO	06	E	X		CONT T.I.H ON WIPER TRIP & WASH TIGHT SPOTS @ 7439 & 8651 & WASH TO BTM
1/21/2012	2:00 - 4:00	2.00	DRLPRO	05	A	X		CIRC BTM UP & PUMPED HIGH VIS SWEEP
	4:00 - 11:00	7.00	DRLPRO	06	E	X		T.O.H F/ LOGS (PUMPED OUT 18 STAND) & PUL WEAR BUSHING
	11:00 - 13:00	2.00	DRLPRO	11	E	X		HELD S/M & R/U BAKER WIRELINE & RUN TRIPLE COMBO @ 8790
	13:00 - 16:00	3.00	DRLPRO	11	E	P		RUN TRIPLE COMBO @ 8790 & LOG OUT
1/21/2012	16:00 - 0:00	8.00	DRLPRO	12	C	P		HELD SM & R/U FRANKS & RUN 4.5 CASING RUN 212 JTS PLUS TWO MARKERS & SHOE SET @ 8800 & F/C @ 8758
	0:00 - 1:30	1.50	DRLPRO	12	C	P		FINISH RUNNING 4.5 CASING RUN 212 JTS PLUS TWO MARKERS & SHOE SET @ 8800 & F/C @ 8758
	1:30 - 2:30	1.00	DRLPRO	05	D	P		CIRC BTM UP W/ 15' FLARE
	2:30 - 5:30	3.00	DRLPRO	12	E	P		HPJSM, R/UP BJ & CEMENT 4.5" PROD CASING, TEST LINES 4300 PSI, PUMP 25 BBLS FRESH WATER, 453 SKS LEAD 12.1 PPG 2.26 YIELD, TAIL 1150 SKS 14.3 PPG, 1.31 YIELD, DROPPED PLUG & DISPLACED W/ 138 BBLS FRESH WATER W/0.1 gal/bbl CLAYFIX II & 0.01 gal/bbl ALDACIDE G @ 2600 PSI, BUMPED PLUG @ 3000 PSI - FLOATS HELD W/1.50 BBLS RETURN, GOOD RETURNS DURING CMT JOB W/ 5 BBL LEAD CEMENT TO SURFACE - R/DN BJ
	5:30 - 8:00	2.50	DRLPRO	14	A	P		WASH OUT STACK & N/D SET C-22 SLIPS @ 100K - ROUGH CUT 4.5 CASING - TRANS MUD TO UPRIGHT TANKS & RELEASED RIG @ 08:00 HRS ON 1/21/2011

1 General

1.1 Customer Information

Company	US ROCKIES REGION
Representative	
Address	

1.2 Well/Wellbore Information

Well	NBU 1022-11D1CS RED	Wellbore No.	OH
Well Name	NBU 1022-11D1CS	Wellbore Name	NBU 1022-11D1CS
Report No.	1	Report Date	3/19/2012
Project	UTAH-UINTAH	Site	NBU 1022-11F PAD
Rig Name/No.		Event	COMPLETION
Start Date	3/19/2012	End Date	3/30/2012
Spud Date	12/28/2011	Active Datum	RKB @5,093.00usft (above Mean Sea Level)
UWI	SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0		

1.3 General

Contractor		Job Method	PERFORATE	Supervisor	
Perforated Assembly	PRODUCTION CASING	Conveyed Method	WIRELINE		

1.4 Initial Conditions

Fluid Type	KCL WATER	Fluid Density		Gross Interval	5,566.0 (usft)-8,601.0 (usft)	Start Date/Time	3/26/2012 12:00AM
Surface Press		Estimate Res Press		No. of Intervals	36	End Date/Time	3/26/2012 12:00AM
TVD Fluid Top		Fluid Head		Total Shots	192	Net Perforation Interval	50.00 (usft)
Hydrostatic Press		Press Difference		Avg Shot Density	3.84 (shot/ft)	Final Surface Pressure	
Balance Cond	NEUTRAL					Final Press Date	

1.5 Summary

2 Intervals

2.1 Perforated Interval

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diameter (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/26/2012 12:00AM	WASATCH/			5,566.0	5,567.0	4.00		0.360	EXP/	3.375	90.00				
														23.00	PRODUCTIO N

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/26/2012 12:00AM	WASATCH/			5,653.0	5,655.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	WASATCH/			5,670.0	5,671.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	WASATCH/			5,734.0	5,736.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,846.0	6,847.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,864.0	6,865.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,894.0	6,895.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,916.0	6,917.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,934.0	6,935.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,944.0	6,945.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			6,992.0	6,994.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,048.0	7,049.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,171.0	7,173.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,225.0	7,226.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,291.0	7,292.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,344.0	7,345.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,475.0	7,477.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,512.0	7,514.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,640.0	7,642.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,658.0	7,659.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,682.0	7,684.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,727.0	7,728.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	

2.1 Perforated Interval (Continued)

Date	Formation/ Reservoir	CCL@ (usft)	CCL-T S (usft)	MD Top (usft)	MD Base (usft)	Shot Density (shot/ft)	Misfires/ Add. Shot	Diamete r (in)	Carr Type /Carr Manuf	Carr Size (in)	Phasing (°)	Charge Desc /Charge Manufacturer	Charge Weight (gram)	Reason	Misrun
3/26/2012 12:00AM	MESAVERDE/			7,747.0	7,749.0	3.00		0.360	EXP/	3.375	120.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,788.0	7,790.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,834.0	7,836.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			7,931.0	7,933.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,059.0	8,060.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,096.0	8,098.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,110.0	8,111.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,146.0	8,147.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,278.0	8,279.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,360.0	8,361.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,464.0	8,466.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,567.0	8,568.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,589.0	8,590.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	
3/26/2012 12:00AM	MESAVERDE/			8,600.0	8,601.0	4.00		0.360	EXP/	3.375	90.00		23.00	PRODUCTIO N	

3 Plots

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 3/19/2012

End Date: 3/30/2012

Active Datum: RKB @5,093.00usft (above Mean Sea Level)

UWI: SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/NW/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/6/2012	-							
3/7/2012	-							
3/19/2012	8:00 - 10:00	2.00	COMP	33		P		FILL SURFACE CSG. MIRU B&C QUICK TEST. PSI TEST T/ 1000 PSI. HELD FOR 15 MIN LOST 15 PSI. PSI TEST T/ 3500 PSI. HELD FOR 15 MIN LOST 34 PSI. 1ST PSI TEST T/ 7000 PSI. HELD FOR 30 MIN LOST 53 PSI. NO COMMUNICATION OR MIGRATION WITH SURFACE CSG BLEED OFF PSI. MOVE T/ NEXT WELL. SWFW
3/22/2012	8:00 - 9:30	1.50	COMP	37		P		HELD SAFETY MEETING: ARMING GUNS PERF STG 1)PU 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH PERF AS PER PERF DESIGN. POOH. SWFW
3/26/2012	7:00 - 12:00	5.00	COMP	36	B	P		FRAC STG 1)WHP 1623 PSI, BRK 3666 PSI @ 4.8 BPM. ISIP 2316 PSI, FG .71 CALC HOLES OPEN @ 50.5 BPM @ 4695 PSI = 100% HOLES OPEN. ISIP 2416 PSI, FG .72, NPI 100 PSI. MP 5822 PSI, MR 50.7 BPM, AP 4556 PSI, AR 49.2 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE SWFVN, DUE TO HIGH WINDS

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 3/19/2012

End Date: 3/30/2012

Active Datum: RKB @5,093.00usft (above Mean Sea Level)

UWI: SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/27/2012	7:00 - 18:00	11.00	COMP	36	B	P		<p>PERF STG 2)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 8309' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 2)WHP 534 PSI, BRK 2985 PSI @ 4.5 BPM. ISIP 2028 PSI, FG .69 CALC HOLES OPEN @ 50.6 BPM @ 4958 PSI = 94% HOLES OPEN. ISIP 2682 PSI, FG .77, NPI 654 PSI. MP 5892 PSI, MR 50.8 BPM, AP 4939 PSI, AR 50.2 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 3)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7963' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 3)WHP 1992 PSI, BRK 6026 PSI @ 4.7 BPM. ISIP 2500 PSI, FG .76 CALC HOLES OPEN @ 51.2 BPM @ 4740 PSI = 100% HOLES OPEN. ISIP 2041 PSI, FG .70, NPI -490 PSI. MP 5510 PSI, MR 51.4 BPM, AP 4855 PSI, AR 51.0 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 4)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7778' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 4)WHP 1826 PSI, BRK 2369 PSI @ 6.9 BPM. ISIP 1850 PSI, FG .68 CALC HOLES OPEN @ 51.4 BPM @ 4631 PSI = 97% HOLES OPEN. ISIP 2077 PSI, FG .71, NPI 227 PSI. MP 5246 PSI, MR 51.2 BPM, AP 4648 PSI, AR 51.0 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR WL</p> <p>PERF STG 5)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7544' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW</p> <p>FRAC STG 5)WHP 707 PSI, BRK 4941 PSI @ 4.8 BPM. ISIP 2328 PSI, FG .75 CALC HOLES OPEN @ 45.4 BPM @ 5718 PSI = 68% HOLES OPEN. ISIP 2565 PSI, FG .79, NPI 237 PSI. MP 6182 PSI, MR 50.7 BPM, AP 5546 PSI, AR 49.7</p>

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 3/19/2012

End Date: 3/30/2012

Active Datum: RKB @5,093.00usft (above Mean Sea Level)

UWI: SE/NW0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
3/28/2012	6:45 - 7:00	0.25	COMP	48		P		BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
	7:00 - 15:00	8.00	COMP	36	B	P		PERF STG 6)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 7256' P/U PERF AS PER PERF DESIGN. POOH. SWIFN HELD SAFETY MEETING: R.D. & MOVING FRAC STG 6)WHP 957 PSI, BRK 4213 PSI @ 4.4 BPM. ISIP 1843 PSI, FG .70. CALC HOLES OPEN @ 50.5 BPM @ 4823 PSI = 87% HOLES OPEN. ISIP 2006 PSI, FG .72, NPI 163 PSI. MP 5503 PSI, MR 51.3 BPM, AP 4549 PSI, AR 49.8 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
3/29/2012	7:00 - 7:15	0.25	COMP	48		P		PERF STG 7)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 6975' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW
								FRAC STG 7)WHP 1622 PSI, BRK 2411 PSI @ 2.5 BPM. ISIP 1627 PSI, FG .67. CALC HOLES OPEN @ 51.4 BPM @ 3764 PSI = 100% HOLES OPEN. ISIP 2177 PSI, FG .75, NPI 550 PSI. MP 4568 PSI, MR 51.6 BPM, AP 3808 PSI, AR 51.3 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
3/29/2012								PERF STG 8)PU 4 1/2 8K HAL CBP & 3 1/8 EXP GUN, 23 GM, .36 HOLE SIZE. 90 DEG PHASING. RIH SET CBP @ 5766' P/U PERF AS PER PERF DESIGN. POOH. X-OVER FOR FRAC CREW
								FRAC STG 8)WHP 116 PSI, BRK 1175 PSI @ 2.5 BPM. ISIP 830 PSI, FG .59. CALC HOLES OPEN @ 49.8 BPM @ 2960 PSI = 100% HOLES OPEN. ISIP 1591 PSI, FG .72, NPI 761 PSI. MP 4156 PSI, MR 50.0 BPM, AP 3153 PSI, AR 49.7 BPM PUMPED 30/50 OTTAWA SAND IN THIS STAGE X-OVER FOR W L
3/29/2012								RU WL,RIH W 4 1/2 HAL CBP SET @ 5516, POOH RD FRAC & WL CREWS SWIFN
								TOTAL SAND= 189,993 # TOTAL CLFL= 8565 BBLS JSA- RDSU. ROAD RIG.

US ROCKIES REGION
Operation Summary Report

Well: NBU 1022-11D1CS RED

Spud Date: 12/28/2011

Project: UTAH-UINTAH

Site: NBU 1022-11F PAD

Rig Name No: MILES 3/3

Event: COMPLETION

Start Date: 3/19/2012

End Date: 3/30/2012

Active Datum: RKB @5,093.00usft (above Mean Sea Level)

UWI: SE/NW/0/10/S/22/E/11/0/0/26/PM/N/1868/W/0/1493/0/0

Date	Time Start-End	Duration (hr)	Phase	Code	Sub Code	P/U	MD From (usft)	Operation
	7:15 - 12:30	5.25	COMP	30	A	P		RDSU AND RACK OUT LINES. ROAD RIG FROM NBU 1022-36I TO LOCATION. RUSU. ND WH. NU BOP. RU FLOOR AND TBG EQUIP. SPOT TBG.
	12:30 - 16:30	4.00	COMP	31	I	P		MU 3-7/8" MILL, POBS, AND 1.87" XN. RIH AS MEAS AND PU 174-JTS 2-3/8" L-80 TBG TO TAG AT 5491'. RU DRLG EQUIP W/ 174# . LAY PMP LINES. RU PWR SWIVEL. READY TO D/O PLUGS IN AM.
3/30/2012	7:00 - 7:15	0.25	COMP	48		P		JSA- PRES TEST. D/O PLUGS. LD TBG.
	7:15 - 7:15	0.00	COMP	44	C	P		FILL TBG. PRES TEST TO 3000#. GOOD. EST CIRC AND D/O 8 PLUGS.
								#1- C/O 8' SAND TO CBP AT 5516'. D/O IN 14 MIN. 400# INC. 0-200# FCP. RIH.
								#2- C/O 30' SAND TO CBP AT 5766'. D/O IN 8 MIN. 600# INC. 100-200# FCP. RIH.
								#3- C/O 25' SAND TO CBP AT 6975'. D/O IN 2 MIN. 0# INC. 200# FCP. RIH.
								#4- C/O 35' SAND TO CBP AT 7256'. D/O IN 6 MIN. 500# INC. 200-400# FCP. RIH.
								#5- C/O 35' SAND TO CBP AT 7544'. D/O IN 8 MIN. 700# INC. 300-500# FCP. RIH.
								#6- C/O 18' SAND TO CBP AT 7778'. D/O IN 8 MIN. 200# INC. 400-600# FCP. RIH.
								#7- C/O 25' SAND TO CBP AT 7963'. D/O IN 10 MIN. 400# INC. 500-800# FCP. RIH.
								#8- C/O 30' SAND TO CBP AT 8309'. D/O IN 8 MIN. 800# INC. 700-900# FCP. RIH.
								PBTD AT 8763'. BTM PERF AT 8601'. C/O 30'TO 8713' W/ 275-JTS IN (112' RATHOLE). CIRC CLEAN.
								RD PWR SWIVEL. POOH AS LD 20-JTS TBG. PU 4" 10K HANGER. LUB IN AND LAND 255-JTS 2-3/8" L-80 TBG. RD FLOOR. ND BOP. NU WH. HOOK UP FLOW LINES. POBS AT 1700#. PRES TEST LINES TO 3000#. SITP 650#. SICP 2100#. TURN OVER TO FBC AND SALES. RDSU AND MOVE OVER. RUSU. ND WH. NU BOP.
								TBG DETAIL KB 14.00
								4" 10K HANGER .83
								255-JTS 2-3/8" L-80 8080.41
								1.87" XN POBS 2.20
								EOT 8097.44
								314-JTS DELIVERED, 58-JTS RETURNED
								1-JT BAD
								TLTR 8565, TLRT 1200, LLTR 7365.
	14:15 -		COMP	50				WELL TURNED TO SALES AT 1415 HR ON
								3/30/2012 - 1200 MCFD, 1920 BWPD, FCP 2300#, FTP 1894#, 20/64 CK
4/10/2012	7:00 -		PROD	50				WELL IP'D ON 4/10/12 - 3229 MCFD, 0 BOPD, 204 BWPD, CP 2052#, FTP 1711#, CK 20/64", LP 111#, 24 HRS

Project: UTAH - UTM (feet), NAD27, Zone 12N
 Site: UINAH NBU 1022-11F PAD
 Well: NBU 1022-11D1CS
 Wellbore: NBU 1022-11D1CS
 Section:
 SHL:
 Design: NBU 1022-11D1CS (wp02)
 Latitude: 39.965612
 Longitude: -109.410638
 GL: 5082.00
 KB: 14' RBK + GL @ 5096.00ft

FORMATION TOP DETAILS

TVDPath	MDPath	Formation
1772.00	1832.43	MAHOGANY
4127.00	4386.56	WASATCH
4727.00	4993.28	TOP OF CYLINDER
6407.00	6673.33	MESAVERDE
8554.00	8820.33	SEGO

CASING DETAILS

TVD	MD	Name	Size
2251.47	2358.67	8-5/8"	8-5/8



Azimuths to True North
 Magnetic North: 10.97°

Magnetic Field
 Strength: 52272.2nT
 Dip Angle: 65.84°
 Date: 12/14/2011
 Model: IGRF2010

WELL DETAILS: NBU 1022-11D1CS

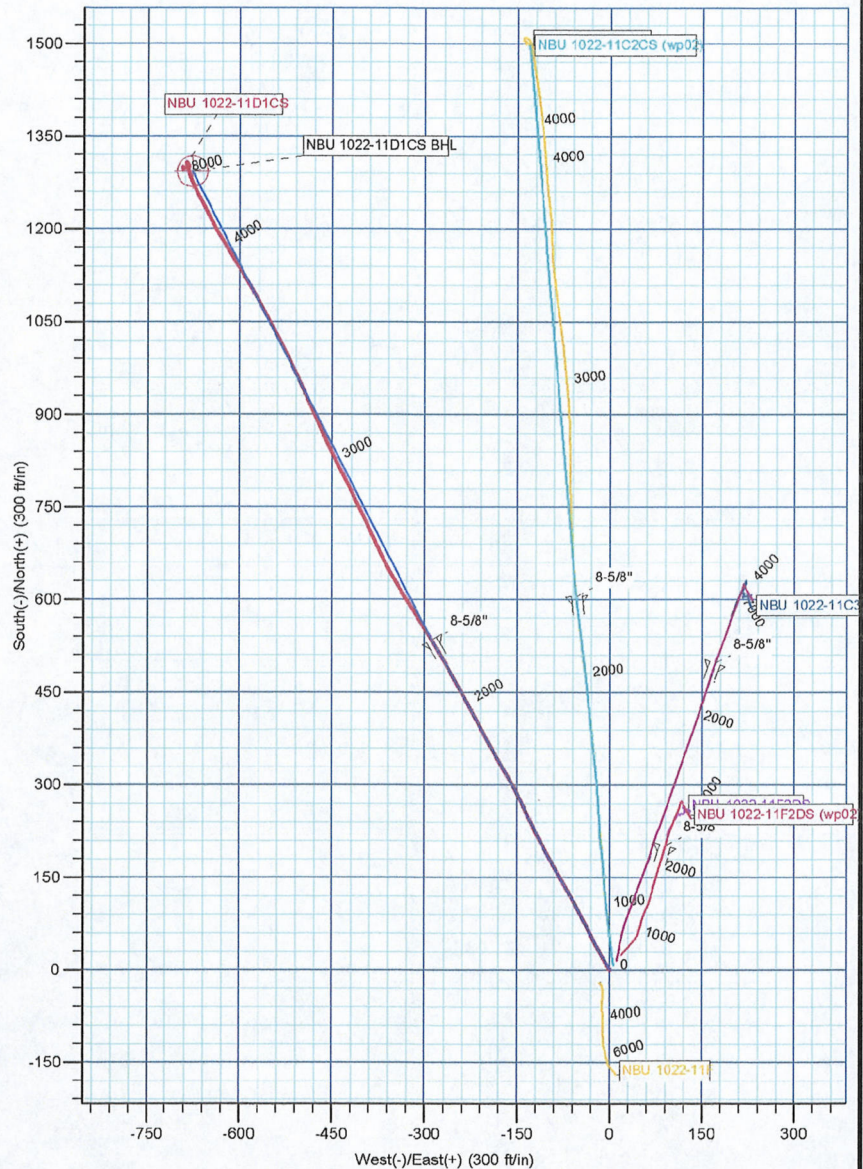
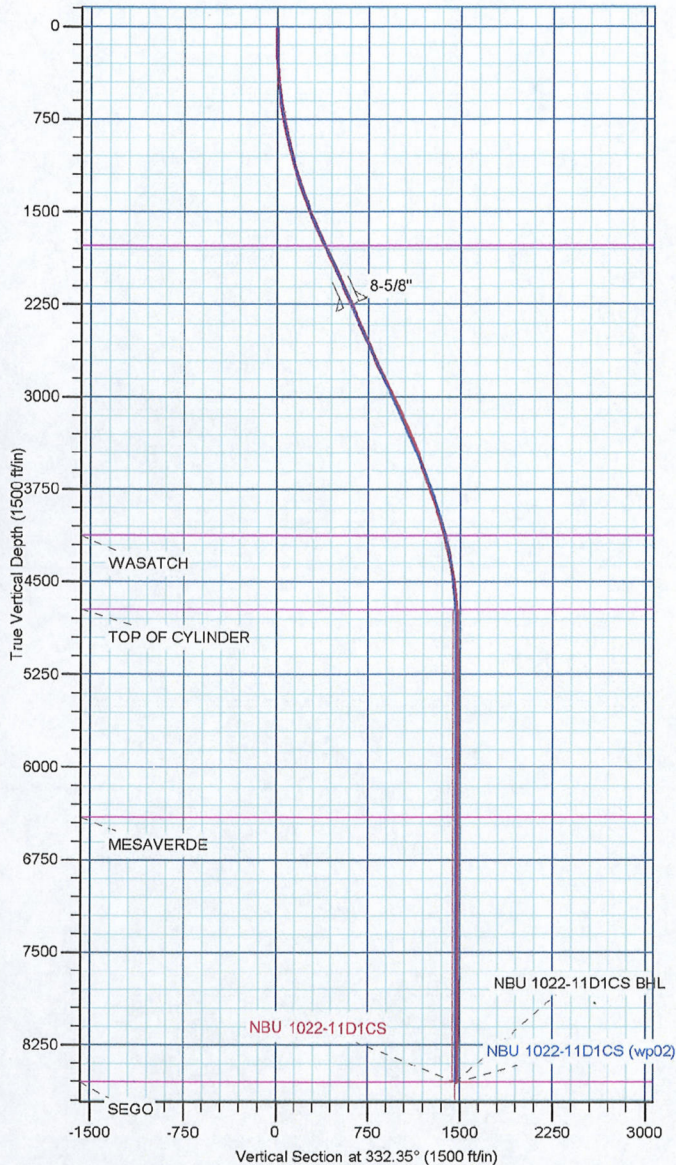
+N/-S	+E/-W	Northing	Ground Level: Easting	Latitude	Longitude	Slot
0.00	0.00	14517490.71	2085764.00	39.965612	-109.410638	

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
NBU 1022-11D1CS BHL	8554.00	1292.97	-677.36	14518771.41	2085063.71	39.969162	-109.413055	Circle (Radius: 25.00)

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect
2330.00	23.70	329.44	2225.22	524.93	-282.78	0.00	0.00	596.21
2398.79	23.70	332.86	2288.22	549.14	-296.12	2.00	91.38	623.85
3790.78	23.70	332.86	3562.76	1047.15	-551.37	0.00	0.00	1183.44
5145.33	0.00	0.00	4879.00	1292.97	-677.36	1.75	180.00	1459.66
8820.33	0.00	0.00	8554.00	1292.97	-677.36	0.00	0.00	1459.66



Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	14' RBK + GL @ 5096.00ft
Site:	UINTAH_NBU 1022-11F PAD	MD Reference:	14' RBK + GL @ 5096.00ft
Well:	NBU 1022-11D1CS	North Reference:	True
Wellbore:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1022-11D1CS	Database:	edmp

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_NBU 1022-11F PAD				
Site Position:		Northing:	14,517,490.72 usft	Latitude:	39.965612
From:	Lat/Long	Easting:	2,085,764.00 usft	Longitude:	-109.410638
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence:	1.02 °

Well	NBU 1022-11D1CS					
Well Position	+N/-S	0.00 ft	Northing:	14,517,490.72 usft	Latitude:	39.965612
	+E/-W	0.00 ft	Easting:	2,085,764.00 usft	Longitude:	-109.410638
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	5,082.00 ft

Wellbore	NBU 1022-11D1CS				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	12/14/2011	(°)	(°)	(nT)
			10.97	65.84	52,272

Design	NBU 1022-11D1CS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	10.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W	Direction	
	(ft)	(ft)	(ft)	(°)	
	10.00	0.00	0.00	332.35	

Survey Program	Date	1/23/2012			
From	To	Survey (Wellbore)	Tool Name	Description	
(ft)	(ft)				
180.00	2,330.00	Survey #1 (NBU 1022-11D1CS)	MWD	MWD - Standard	
2,440.00	8,820.00	Survey #2 (NBU 1022-11D1CS)	MWD	MWD - Standard	

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(ft)	(ft)	Section	Rate	Rate	Rate
(ft)			(ft)			(ft)	(°/100usft)	(°/100usft)	(°/100usft)
10.00	0.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	0.51	33.65	180.00	0.63	0.42	0.36	0.30	0.30	0.00
265.00	1.81	317.20	264.98	1.93	-0.28	1.84	2.07	1.53	-89.94
350.00	3.66	328.41	349.88	5.23	-2.62	5.84	2.26	2.18	13.19
440.00	5.13	326.75	439.61	11.04	-6.33	12.71	1.64	1.63	-1.84
530.00	6.88	330.00	529.12	19.07	-11.23	22.11	1.98	1.94	3.61
620.00	8.63	331.63	618.29	29.68	-17.13	34.24	1.96	1.94	1.81
710.00	10.00	333.38	707.10	42.61	-23.84	48.81	1.55	1.52	1.94
800.00	11.00	333.00	795.59	57.25	-31.24	65.21	1.11	1.11	-0.42
890.00	12.06	333.75	883.78	73.33	-39.30	83.19	1.19	1.18	0.83

Anadarko Petroleum Corp

Survey Report

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-11F PAD
Well: NBU 1022-11D1CS
Wellbore: NBU 1022-11D1CS
Design: NBU 1022-11D1CS

Local Co-ordinate Reference: Well NBU 1022-11D1CS
TVD Reference: 14' RBK + GL @ 5096.00ft
MD Reference: 14' RBK + GL @ 5096.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
980.00	13.25	332.88	971.59	90.94	-48.16	102.91	1.34	1.32	-0.97
1,070.00	14.75	330.88	1,058.91	110.13	-58.44	124.68	1.75	1.67	-2.22
1,160.00	16.31	331.38	1,145.62	131.24	-70.07	148.77	1.74	1.73	0.56
1,250.00	17.81	330.63	1,231.66	154.33	-82.87	175.16	1.68	1.67	-0.83
1,340.00	19.25	329.75	1,316.99	179.14	-97.10	203.74	1.63	1.60	-0.98
1,430.00	19.69	332.00	1,401.85	205.34	-111.69	233.72	0.97	0.49	2.50
1,520.00	21.69	335.75	1,486.04	233.90	-125.64	265.49	2.66	2.22	4.17
1,610.00	23.31	334.13	1,569.19	265.09	-140.24	299.90	1.93	1.80	-1.80
1,700.00	23.75	331.50	1,651.71	297.04	-156.66	335.82	1.26	0.49	-2.92
1,790.00	25.13	330.25	1,733.64	329.56	-174.79	373.04	1.64	1.53	-1.39
1,880.00	25.88	330.63	1,814.87	363.27	-193.91	411.77	0.85	0.83	0.42
1,970.00	25.75	332.13	1,895.89	397.67	-212.68	450.95	0.74	-0.14	1.67
2,060.00	24.44	331.88	1,977.39	431.37	-230.60	489.12	1.46	-1.46	-0.28
2,150.00	22.94	331.63	2,059.81	463.23	-247.71	525.28	1.67	-1.67	-0.28
2,240.00	23.13	330.25	2,142.63	494.01	-264.81	560.48	0.64	0.21	-1.53
2,330.00	23.70	329.44	2,225.22	524.93	-282.78	596.21	0.73	0.63	-0.90
2,440.00	23.07	327.66	2,326.19	562.18	-305.55	639.77	0.86	-0.57	-1.62
2,531.00	22.87	327.41	2,409.97	592.14	-324.61	675.16	0.24	-0.22	-0.27
2,622.00	24.04	329.03	2,493.45	622.93	-343.68	711.28	1.47	1.29	1.78
2,712.00	24.63	331.99	2,575.46	655.21	-361.92	748.34	1.51	0.66	3.29
2,803.00	24.63	335.62	2,658.18	689.23	-378.65	786.24	1.66	0.00	3.99
2,894.00	25.38	334.74	2,740.65	724.13	-394.80	824.65	0.92	0.82	-0.97
2,984.00	26.63	334.62	2,821.54	759.80	-411.68	864.08	1.39	1.39	-0.13
3,075.00	24.56	331.99	2,903.61	794.93	-429.30	903.38	2.59	-2.27	-2.89
3,166.00	24.38	334.12	2,986.44	828.53	-446.38	941.06	0.99	-0.20	2.34
3,257.00	24.25	335.12	3,069.36	862.38	-462.44	978.50	0.47	-0.14	1.10
3,347.00	24.75	335.87	3,151.26	896.34	-477.92	1,015.76	0.65	0.56	0.83
3,438.00	24.88	336.37	3,233.86	931.26	-493.38	1,053.87	0.27	0.14	0.55
3,529.00	23.13	335.24	3,316.99	965.03	-508.54	1,090.82	1.99	-1.92	-1.24
3,619.00	21.25	332.87	3,400.32	995.60	-523.38	1,124.79	2.31	-2.09	-2.63
3,710.00	19.88	332.99	3,485.52	1,024.06	-537.93	1,156.75	1.51	-1.51	0.13
3,801.00	19.44	332.49	3,571.21	1,051.28	-551.95	1,187.37	0.52	-0.48	-0.55
3,891.00	19.69	331.74	3,656.02	1,077.92	-566.05	1,217.51	0.39	0.28	-0.83
3,982.00	19.63	329.62	3,741.71	1,104.61	-581.04	1,248.10	0.79	-0.07	-2.33
4,073.00	20.06	329.62	3,827.31	1,131.26	-596.66	1,278.96	0.47	0.47	0.00
4,163.00	17.69	327.24	3,912.46	1,156.08	-611.87	1,308.00	2.77	-2.63	-2.64
4,254.00	16.25	327.87	3,999.50	1,178.49	-626.12	1,334.47	1.80	-1.58	0.69
4,345.00	14.75	331.12	4,087.19	1,199.42	-638.49	1,358.75	1.90	-1.65	3.57
4,435.00	13.25	334.12	4,174.51	1,218.73	-648.53	1,380.51	1.85	-1.67	3.33
4,526.00	12.25	332.62	4,263.27	1,236.68	-657.52	1,400.59	1.16	-1.10	-1.65
4,617.00	10.38	333.24	4,352.50	1,252.58	-665.65	1,418.44	2.06	-2.05	0.68
4,708.00	8.94	332.24	4,442.20	1,266.16	-672.64	1,433.71	1.59	-1.58	-1.10
4,798.00	7.06	338.37	4,531.33	1,277.49	-677.93	1,446.20	2.29	-2.09	6.81

Anadarko Petroleum Corp

Survey Report

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-11F PAD
Well: NBU 1022-11D1CS
Wellbore: NBU 1022-11D1CS
Design: NBU 1022-11D1CS

Local Co-ordinate Reference: Well NBU 1022-11D1CS
TVD Reference: 14' RBK + GL @ 5096.00ft
MD Reference: 14' RBK + GL @ 5096.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,889.00	5.13	344.99	4,621.81	1,286.62	-681.05	1,455.74	2.25	-2.12	7.27
4,980.00	3.69	343.87	4,712.54	1,293.36	-682.92	1,462.58	1.59	-1.58	-1.23
5,071.00	1.63	339.49	4,803.43	1,297.38	-684.18	1,466.73	2.27	-2.26	-4.81
5,161.00	1.31	339.62	4,893.40	1,299.55	-684.99	1,469.02	0.36	-0.36	0.14
5,252.00	1.25	343.87	4,984.38	1,301.48	-685.63	1,471.03	0.12	-0.07	4.67
5,342.00	1.06	350.24	5,074.36	1,303.24	-686.04	1,472.78	0.25	-0.21	7.08
5,433.00	0.88	354.49	5,165.35	1,304.77	-686.25	1,474.23	0.21	-0.20	4.67
5,524.00	0.75	357.99	5,256.34	1,306.06	-686.34	1,475.41	0.15	-0.14	3.85
5,614.00	0.48	5.55	5,346.33	1,307.02	-686.32	1,476.26	0.31	-0.30	8.40
5,705.00	0.31	13.24	5,437.33	1,307.64	-686.23	1,476.76	0.20	-0.19	8.45
5,796.00	0.06	55.12	5,528.33	1,307.91	-686.13	1,476.96	0.29	-0.27	46.02
5,886.00	0.25	140.37	5,618.33	1,307.78	-685.97	1,476.77	0.28	0.21	94.72
5,977.00	0.44	149.49	5,709.33	1,307.33	-685.67	1,476.23	0.22	0.21	10.02
6,068.00	0.56	144.49	5,800.33	1,306.66	-685.23	1,475.44	0.14	0.13	-5.49
6,158.00	0.69	149.24	5,890.32	1,305.84	-684.70	1,474.46	0.16	0.14	5.28
6,249.00	0.81	148.74	5,981.31	1,304.82	-684.08	1,473.27	0.13	0.13	-0.55
6,340.00	0.94	144.12	6,072.30	1,303.67	-683.31	1,471.89	0.16	0.14	-5.08
6,430.00	1.19	151.37	6,162.29	1,302.25	-682.43	1,470.23	0.32	0.28	8.06
6,521.00	0.56	310.87	6,253.28	1,301.71	-682.32	1,469.69	1.90	-0.69	175.28
6,612.00	0.25	262.62	6,344.28	1,301.97	-682.85	1,470.18	0.48	-0.34	-53.02
6,702.00	0.19	191.49	6,434.28	1,301.80	-683.07	1,470.13	0.29	-0.07	-79.03
6,793.00	0.19	168.12	6,525.28	1,301.51	-683.07	1,469.87	0.08	0.00	-25.68
6,884.00	0.27	163.22	6,616.28	1,301.15	-682.98	1,469.51	0.09	0.09	-5.38
6,974.00	0.44	189.24	6,706.28	1,300.61	-682.97	1,469.03	0.26	0.19	28.91
7,065.00	0.88	180.99	6,797.27	1,299.57	-683.04	1,468.13	0.49	0.48	-9.07
7,156.00	1.13	191.49	6,888.26	1,297.99	-683.23	1,466.82	0.34	0.27	11.54
7,246.00	0.50	277.87	6,978.25	1,297.17	-683.80	1,466.36	1.34	-0.70	95.98
7,337.00	0.63	227.49	7,069.25	1,296.89	-684.56	1,466.47	0.54	0.14	-55.36
7,428.00	1.13	316.24	7,160.24	1,297.20	-685.55	1,467.20	1.41	0.55	97.53
7,518.00	0.81	307.12	7,250.22	1,298.22	-686.67	1,468.63	0.39	-0.36	-10.13
7,609.00	0.56	263.62	7,341.22	1,298.56	-687.63	1,469.37	0.61	-0.27	-47.80
7,700.00	0.75	242.12	7,432.21	1,298.23	-688.59	1,469.53	0.34	0.21	-23.63
7,790.00	1.31	316.99	7,522.20	1,298.71	-689.82	1,470.52	1.48	0.62	83.19
7,881.00	1.00	309.24	7,613.18	1,299.97	-691.14	1,472.25	0.38	-0.34	-8.52
7,971.00	0.56	282.24	7,703.17	1,300.56	-692.18	1,473.26	0.62	-0.49	-30.00
8,062.00	0.19	260.37	7,794.17	1,300.63	-692.76	1,473.59	0.43	-0.41	-24.03
8,153.00	0.19	245.74	7,885.17	1,300.55	-693.05	1,473.65	0.05	0.00	-16.08
8,243.00	0.19	179.24	7,975.17	1,300.34	-693.18	1,473.52	0.23	0.00	-73.89
8,334.00	0.25	144.49	8,066.17	1,300.02	-693.07	1,473.19	0.16	0.07	-38.19
8,424.00	0.56	166.24	8,156.17	1,299.44	-692.85	1,472.57	0.38	0.34	24.17
8,515.00	0.63	169.12	8,247.16	1,298.51	-692.65	1,471.66	0.08	0.08	3.16
8,606.00	0.56	172.99	8,338.16	1,297.58	-692.50	1,470.76	0.09	-0.08	4.25
8,696.00	0.63	174.12	8,428.15	1,296.65	-692.39	1,469.89	0.08	0.08	1.26

Anadarko Petroleum Corp

Survey Report

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	14' RBK + GL @ 5096.00ft
Site:	UINTAH_NBU 1022-11F PAD	MD Reference:	14' RBK + GL @ 5096.00ft
Well:	NBU 1022-11D1CS	North Reference:	True
Wellbore:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1022-11D1CS	Database:	edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,770.00	0.95	191.94	8,502.15	1,295.65	-692.48	1,469.04	0.54	0.43	24.08
8,820.00	0.95	191.94	8,552.14	1,294.84	-692.65	1,468.40	0.00	0.00	0.00

Checked By: _____	Approved By: _____	Date: _____
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US ROCKIES REGION PLANNING

UTAH - UTM (feet), NAD27, Zone 12N

UINTAH_NBU 1022-11F PAD

NBU 1022-11D1CS

NBU 1022-11D1CS

Design: NBU 1022-11D1CS

Survey Report - Geographic

14 February, 2012

Anadarko Petroleum Corp

Survey Report - Geographic

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well NBU 1022-11D1CS
Project:	UTAH - UTM (feet), NAD27, Zone 12N	TVD Reference:	14' RBK + GL @ 5096.00ft
Site:	UINTAH_NBU 1022-11F PAD	MD Reference:	14' RBK + GL @ 5096.00ft
Well:	NBU 1022-11D1CS	North Reference:	True
Wellbore:	NBU 1022-11D1CS	Survey Calculation Method:	Minimum Curvature
Design:	NBU 1022-11D1CS	Database:	edmp

Project	UTAH - UTM (feet), NAD27, Zone 12N		
Map System:	Universal Transverse Mercator (US Survey Feet)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	Zone 12N (114 W to 108 W)		

Site	UINTAH_NBU 1022-11F PAD			
Site Position:		Northing:	14,517,490.72 usft	Latitude: 39.965612
From:	Lat/Long	Easting:	2,085,764.00 usft	Longitude: -109.410638
Position Uncertainty:	0.00 ft	Slot Radius:	13-3/16 "	Grid Convergence: 1.02 °

Well	NBU 1022-11D1CS			
Well Position	+N-S	0.00 ft	Northing: 14,517,490.72 usft	Latitude: 39.965612
	+E-W	0.00 ft	Easting: 2,085,764.00 usft	Longitude: -109.410638
Position Uncertainty		0.00 ft	Wellhead Elevation: ft	Ground Level: 5,082.00 ft

Wellbore	NBU 1022-11D1CS				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/14/2011	10.97	65.84	52,272

Design	NBU 1022-11D1CS				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	10.00
Vertical Section:	Depth From (TVD) (ft)	+N-S (ft)	+E-W (ft)	Direction (°)	
	10.00	0.00	0.00	332.35	

Survey Program	Date 1/23/2012				
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
180.00	2,330.00	Survey #1 (NBU 1022-11D1CS)	MWD	MWD - Standard	
2,440.00	8,820.00	Survey #2 (NBU 1022-11D1CS)	MWD	MWD - Standard	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
10.00	0.00	0.00	10.00	0.00	0.00	14,517,490.72	2,085,764.00	39.965612	-109.410638	
180.00	0.51	33.65	180.00	0.63	0.42	14,517,491.35	2,085,764.40	39.965614	-109.410637	
265.00	1.81	317.20	264.98	1.93	-0.28	14,517,492.64	2,085,763.68	39.965617	-109.410639	
350.00	3.66	328.41	349.88	5.23	-2.62	14,517,495.89	2,085,761.29	39.965626	-109.410648	
440.00	5.13	326.75	439.61	11.04	-6.33	14,517,501.64	2,085,757.47	39.965642	-109.410661	
530.00	6.88	330.00	529.12	19.07	-11.23	14,517,509.59	2,085,752.43	39.965664	-109.410678	
620.00	8.63	331.63	618.29	29.68	-17.13	14,517,520.09	2,085,746.34	39.965694	-109.410699	
710.00	10.00	333.38	707.10	42.61	-23.84	14,517,532.89	2,085,739.40	39.965729	-109.410723	
800.00	11.00	333.00	795.59	57.25	-31.24	14,517,547.40	2,085,731.74	39.965769	-109.410750	
890.00	12.06	333.75	883.78	73.33	-39.30	14,517,563.33	2,085,723.39	39.965813	-109.410779	
980.00	13.25	332.88	971.59	90.94	-48.16	14,517,580.79	2,085,714.22	39.965862	-109.410810	

Anadarko Petroleum Corp

Survey Report - Geographic

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-11F PAD
Well: NBU 1022-11D1CS
Wellbore: NBU 1022-11D1CS
Design: NBU 1022-11D1CS

Local Co-ordinate Reference: Well NBU 1022-11D1CS
TVD Reference: 14' RBK + GL @ 5096.00ft
MD Reference: 14' RBK + GL @ 5096.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,070.00	14.75	330.88	1,058.91	110.13	-58.44	14,517,599.79	2,085,703.60	39.965914	-109.410847
1,160.00	16.31	331.38	1,145.62	131.24	-70.07	14,517,620.68	2,085,691.60	39.965972	-109.410888
1,250.00	17.81	330.63	1,231.66	154.33	-82.87	14,517,643.54	2,085,678.39	39.966036	-109.410934
1,340.00	19.25	329.75	1,316.99	179.14	-97.10	14,517,668.10	2,085,663.72	39.966104	-109.410985
1,430.00	19.69	332.00	1,401.85	205.34	-111.69	14,517,694.04	2,085,648.66	39.966176	-109.411037
1,520.00	21.69	335.75	1,486.04	233.90	-125.64	14,517,722.34	2,085,634.21	39.966254	-109.411087
1,610.00	23.31	334.13	1,569.19	265.09	-140.24	14,517,753.26	2,085,619.05	39.966340	-109.411139
1,700.00	23.75	331.50	1,651.71	297.04	-156.66	14,517,784.91	2,085,602.07	39.966428	-109.411197
1,790.00	25.13	330.25	1,733.64	329.56	-174.79	14,517,817.11	2,085,583.36	39.966517	-109.411262
1,880.00	25.88	330.63	1,814.87	363.27	-193.91	14,517,850.47	2,085,563.64	39.966609	-109.411330
1,970.00	25.75	332.13	1,895.89	397.67	-212.68	14,517,884.53	2,085,544.26	39.966704	-109.411397
2,060.00	24.44	331.88	1,977.39	431.37	-230.60	14,517,917.91	2,085,525.75	39.966796	-109.411461
2,150.00	22.94	331.63	2,059.81	463.23	-247.71	14,517,949.45	2,085,508.07	39.966884	-109.411522
2,240.00	23.13	330.25	2,142.63	494.01	-264.81	14,517,979.93	2,085,490.42	39.966968	-109.411583
2,330.00	23.70	329.44	2,225.22	524.93	-282.78	14,518,010.52	2,085,471.91	39.967053	-109.411647
2,440.00	23.07	327.66	2,326.19	562.18	-305.55	14,518,047.36	2,085,448.48	39.967156	-109.411729
2,531.00	22.87	327.41	2,409.97	592.14	-324.61	14,518,076.98	2,085,428.88	39.967238	-109.411797
2,622.00	24.04	329.03	2,493.45	622.93	-343.68	14,518,107.42	2,085,409.27	39.967322	-109.411865
2,712.00	24.63	331.99	2,575.46	655.21	-361.92	14,518,139.37	2,085,390.46	39.967411	-109.411930
2,803.00	24.63	335.62	2,658.18	689.23	-378.65	14,518,173.08	2,085,373.12	39.967504	-109.411989
2,894.00	25.38	334.74	2,740.65	724.13	-394.80	14,518,207.70	2,085,356.35	39.967600	-109.412047
2,984.00	26.63	334.62	2,821.54	759.80	-411.68	14,518,243.06	2,085,338.84	39.967698	-109.412107
3,075.00	24.56	331.99	2,903.61	794.93	-429.30	14,518,277.87	2,085,320.59	39.967795	-109.412170
3,166.00	24.38	334.12	2,986.44	828.53	-446.38	14,518,311.15	2,085,302.92	39.967887	-109.412231
3,257.00	24.25	335.12	3,069.36	862.38	-462.44	14,518,344.71	2,085,286.26	39.967980	-109.412288
3,347.00	24.75	335.87	3,151.26	896.34	-477.92	14,518,378.39	2,085,270.18	39.968073	-109.412344
3,438.00	24.88	336.37	3,233.86	931.26	-493.38	14,518,413.03	2,085,254.10	39.968169	-109.412399
3,529.00	23.13	335.24	3,316.99	965.03	-508.54	14,518,446.53	2,085,238.34	39.968262	-109.412453
3,619.00	21.25	332.87	3,400.32	995.60	-523.38	14,518,476.83	2,085,222.95	39.968346	-109.412506
3,710.00	19.88	332.99	3,485.52	1,024.06	-537.93	14,518,505.03	2,085,207.90	39.968424	-109.412558
3,801.00	19.44	332.49	3,571.21	1,051.28	-551.95	14,518,531.99	2,085,193.40	39.968499	-109.412608
3,891.00	19.69	331.74	3,656.02	1,077.92	-566.05	14,518,558.37	2,085,178.83	39.968572	-109.412658
3,982.00	19.63	329.62	3,741.71	1,104.61	-581.04	14,518,584.79	2,085,163.36	39.968645	-109.412712
4,073.00	20.06	329.62	3,827.31	1,131.26	-596.66	14,518,611.16	2,085,147.27	39.968718	-109.412767
4,163.00	17.69	327.24	3,912.46	1,156.08	-611.87	14,518,635.70	2,085,131.62	39.968786	-109.412822
4,254.00	16.25	327.87	3,999.50	1,178.49	-626.12	14,518,657.86	2,085,116.97	39.968848	-109.412872
4,345.00	14.75	331.12	4,087.19	1,199.42	-638.49	14,518,678.56	2,085,104.23	39.968905	-109.412917
4,435.00	13.25	334.12	4,174.51	1,218.73	-648.53	14,518,697.69	2,085,093.85	39.968958	-109.412952
4,526.00	12.25	332.62	4,263.27	1,236.68	-657.52	14,518,715.48	2,085,084.54	39.969008	-109.412984
4,617.00	10.38	333.24	4,352.50	1,252.58	-665.65	14,518,731.23	2,085,076.13	39.969051	-109.413013
4,708.00	8.94	332.24	4,442.20	1,266.16	-672.64	14,518,744.68	2,085,068.90	39.969088	-109.413038
4,798.00	7.06	338.37	4,531.33	1,277.49	-677.93	14,518,755.92	2,085,063.41	39.969120	-109.413057
4,889.00	5.13	344.99	4,621.81	1,286.62	-681.05	14,518,764.99	2,085,060.13	39.969145	-109.413068
4,980.00	3.69	343.87	4,712.54	1,293.36	-682.92	14,518,771.70	2,085,058.14	39.969163	-109.413075
5,071.00	1.63	339.49	4,803.43	1,297.38	-684.18	14,518,775.70	2,085,056.80	39.969174	-109.413080
5,161.00	1.31	339.62	4,893.40	1,299.55	-684.99	14,518,777.85	2,085,055.96	39.969180	-109.413083
5,252.00	1.25	343.87	4,984.38	1,301.48	-685.63	14,518,779.77	2,085,055.28	39.969185	-109.413085
5,342.00	1.06	350.24	5,074.36	1,303.24	-686.04	14,518,781.52	2,085,054.84	39.969190	-109.413086
5,433.00	0.88	354.49	5,165.35	1,304.77	-686.25	14,518,783.04	2,085,054.60	39.969194	-109.413087
5,524.00	0.75	357.99	5,256.34	1,306.06	-686.34	14,518,784.33	2,085,054.49	39.969198	-109.413087
5,614.00	0.48	5.55	5,346.33	1,307.02	-686.32	14,518,785.30	2,085,054.49	39.969201	-109.413087
5,705.00	0.31	13.24	5,437.33	1,307.64	-686.23	14,518,785.92	2,085,054.57	39.969202	-109.413087
5,796.00	0.06	55.12	5,528.33	1,307.91	-686.13	14,518,786.18	2,085,054.66	39.969203	-109.413087
5,886.00	0.25	140.37	5,618.33	1,307.78	-685.97	14,518,786.06	2,085,054.83	39.969203	-109.413086
5,977.00	0.44	149.49	5,709.33	1,307.33	-685.67	14,518,785.61	2,085,055.14	39.969202	-109.413085

Anadarko Petroleum Corp

Survey Report - Geographic

Company: US ROCKIES REGION PLANNING
Project: UTAH - UTM (feet), NAD27, Zone 12N
Site: UINTAH_NBU 1022-11F PAD
Well: NBU 1022-11D1CS
Wellbore: NBU 1022-11D1CS
Design: NBU 1022-11D1CS

Local Co-ordinate Reference: Well NBU 1022-11D1CS
TVD Reference: 14' RBK + GL @ 5096.00ft
MD Reference: 14' RBK + GL @ 5096.00ft
North Reference: True
Survey Calculation Method: Minimum Curvature
Database: edmp

Survey

Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,068.00	0.56	144.49	5,800.33	1,306.66	-685.23	14,518,784.96	2,085,055.59	39.969200	-109.413083
6,158.00	0.69	149.24	5,890.32	1,305.84	-684.70	14,518,784.15	2,085,056.14	39.969197	-109.413081
6,249.00	0.81	148.74	5,981.31	1,304.82	-684.08	14,518,783.14	2,085,056.77	39.969195	-109.413079
6,340.00	0.94	144.12	6,072.30	1,303.67	-683.31	14,518,782.00	2,085,057.56	39.969191	-109.413077
6,430.00	1.19	151.37	6,162.29	1,302.25	-682.43	14,518,780.59	2,085,058.47	39.969188	-109.413073
6,521.00	0.56	310.87	6,253.28	1,301.71	-682.32	14,518,780.06	2,085,058.59	39.969186	-109.413073
6,612.00	0.25	262.62	6,344.28	1,301.97	-682.85	14,518,780.31	2,085,058.05	39.969187	-109.413075
6,702.00	0.19	191.49	6,434.28	1,301.80	-683.07	14,518,780.14	2,085,057.83	39.969186	-109.413076
6,793.00	0.19	168.12	6,525.28	1,301.51	-683.07	14,518,779.84	2,085,057.84	39.969186	-109.413076
6,884.00	0.27	163.22	6,616.28	1,301.15	-682.98	14,518,779.49	2,085,057.94	39.969185	-109.413075
6,974.00	0.44	189.24	6,706.28	1,300.61	-682.97	14,518,778.95	2,085,057.95	39.969183	-109.413075
7,065.00	0.88	180.99	6,797.27	1,299.57	-683.04	14,518,777.90	2,085,057.90	39.969180	-109.413076
7,156.00	1.13	191.49	6,888.26	1,297.99	-683.23	14,518,776.32	2,085,057.74	39.969176	-109.413076
7,246.00	0.50	277.87	6,978.25	1,297.17	-683.80	14,518,775.49	2,085,057.19	39.969174	-109.413078
7,337.00	0.63	227.49	7,069.25	1,296.89	-684.56	14,518,775.20	2,085,056.43	39.969173	-109.413081
7,428.00	1.13	316.24	7,160.24	1,297.20	-685.55	14,518,775.49	2,085,055.44	39.969174	-109.413085
7,518.00	0.81	307.12	7,250.22	1,298.22	-686.67	14,518,776.49	2,085,054.30	39.969177	-109.413089
7,609.00	0.56	263.62	7,341.22	1,298.56	-687.63	14,518,776.82	2,085,053.34	39.969177	-109.413092
7,700.00	0.75	242.12	7,432.21	1,298.23	-688.59	14,518,776.47	2,085,052.38	39.969177	-109.413095
7,790.00	1.31	316.99	7,522.20	1,298.71	-689.82	14,518,776.93	2,085,051.15	39.969178	-109.413100
7,881.00	1.00	309.24	7,613.18	1,299.97	-691.14	14,518,778.16	2,085,049.80	39.969181	-109.413104
7,971.00	0.56	282.24	7,703.17	1,300.56	-692.18	14,518,778.74	2,085,048.75	39.969183	-109.413108
8,062.00	0.19	260.37	7,794.17	1,300.63	-692.76	14,518,778.80	2,085,048.17	39.969183	-109.413110
8,153.00	0.19	245.74	7,885.17	1,300.55	-693.05	14,518,778.70	2,085,047.88	39.969183	-109.413111
8,243.00	0.19	179.24	7,975.17	1,300.34	-693.18	14,518,778.49	2,085,047.75	39.969182	-109.413112
8,334.00	0.25	144.49	8,066.17	1,300.02	-693.07	14,518,778.18	2,085,047.87	39.969181	-109.413111
8,424.00	0.56	166.24	8,156.17	1,299.44	-692.85	14,518,777.60	2,085,048.10	39.969180	-109.413111
8,515.00	0.63	169.12	8,247.16	1,298.51	-692.65	14,518,776.68	2,085,048.32	39.969177	-109.413110
8,606.00	0.56	172.99	8,338.16	1,297.58	-692.50	14,518,775.75	2,085,048.48	39.969175	-109.413109
8,696.00	0.63	174.12	8,428.15	1,296.65	-692.39	14,518,774.82	2,085,048.61	39.969172	-109.413109
8,770.00	0.95	191.94	8,502.15	1,295.65	-692.48	14,518,773.81	2,085,048.54	39.969169	-109.413109
8,820.00	0.95	191.94	8,552.14	1,294.84	-692.65	14,518,773.00	2,085,048.38	39.969167	-109.413110

Checked By: _____

Approved By: _____

Date: _____